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The Oil Man's Calendar

SEPT. 8–12	American Chemical Society, Atlantic City.
17–19	National Petroleum Association, Atlantic City.
OCT. 2– 3	West Virginia Oil & Natural Gas Association, Clarksburg.
9–11	Texas Mid-Continent Oil & Gas Association, Beaumont.
16–17	American Association of Petroleum Geologists, Pacific Section, Los Angeles.
16–18	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Dallas.
20–22	Independent Petroleum Association of America, Tulsa.
NOV. 2– 7	American Petroleum Institute, Annual Meeting, San Francisco.
DEC. 3	New Mexico Oil & Gas Association, Artesia.
5	Oklahoma Stripper Well Association, Tulsa.

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The Changing Panorama

Britain Needs Those Tankers

Efficiency of the Fleet Lowered by Convoy Needs And Damaged Ports

How real is Britain's need for the United States tankers recently diverted from Gulf-Atlantic service to Caribbean-North Atlantic shuttle duties?

This question is being asked, and fairly so, even by that great body of Americans who pray for England's triumph in the war, because of the threatened oil shortage in Eastern United States due to distribution of transport facilities; because of reports that British oil trade is being conducted on a normal business-as-usual basis, involving long hauls around Africa, while the United States foots the bill, and because British methods of handling tankers have been declared woefully inefficient.

Figures given circulation have stated Britain had 500 tankers with a tonnage of 3,260,000 before the war, and subsequently acquired from Norway and other Allied countries of Europe an additional fleet of around 400 ships, totaling 2,800,000 tons. If 100 of these 900 tankers have been sunk, and if the small number of newly constructed tankers is ignored, Britain's available fleet would be roughly 800 ships. Furthermore, it is considered that British wartime requirements amount to about 100,000,000 barrels yearly, a quantity that 125 tankers could normally supply. If, due to delays occasioned by convoy systems and damaged docks, transport efficiency is halved, 250 tankers would be needed to carry oil to England. These considerations would make it seem that the British have an excess of 550 tankers, the difference between 800 and 250.

Three authorities, to whom THE OIL WEEKLY last week submitted these figures and questions, do not consider that such an excess exists. For one thing, they doubt Britain's tanker losses are as low as 100 ships. Furthermore, they consider Great Britain needs more than 250 tankers to keep supplied, largely because of delays created by necessity of gathering at convoy points, by devious routes often pursued to avoid attacks, and by difficulties in unloading at damaged docks. Naturally this has lowered the efficiency of British tanker service, but little can be done about it. There is the additional consideration that the British fleets may have in attendance or situated at nearby points a retinue of tankers totaling appreciable tonnage. Moreover, many of the listed British tankers are said to be small boats used for moving petroleum around England, and that they could not be used for anything but short shuttle service along coast lines.

As for the thought that the British may still be transporting large quantities over the long African route from their properties in the Near East to the British Isle, these men declared that practice ceased early in the war. Oil produced in the Near East is being used largely to supply the British Mediterranean fleet and Near East army. They say England is not trying to conduct business as usual at the expense of United States coast-wise movement. The consensus of these men, therefore, is that the British need for American assistance is unquestionably real.

An interesting fact brought out in the inquiry is that the United States Maritime Commission, following transfer of the first 25 American tankers to British shuttle service, received a comprehensive report on England's use of and requirements for tankers. It was on the basis of this report that the maritime commission assured oil companies that the British need was real and justified the subsequent transfer of 25 more ships.

There does seem to be a possibility of improved efficiency in trans-Atlantic tanker handling and unloading. Additional tankage at Halifax to the extent of 480,000 barrels that is nearing completion will help. Removal of oil tankers from wheat hauling service would assist. Shortage of cargo ships is the reason for this unusual tanker use.

Having some bearing on the feeling that efficiency is lacking in English tanker handling is the report that only four trans-Atlantic round-trips are planned between the Americas and England annually, and that there is a great loss of time in unloading at English ports.

Planned Scarcity Would Be Mistake

Oil Industry at Top Efficiency Will Best Serve America Now

If Coordinator Ickes and some of the members of the oil industry do not guard themselves, it will be very easy for the petroleum administration to fall into the fatal error of planned scarcity of petroleum. There is such a thing as leaning so far backwards in an effort to assure the coordinator of assistance that the same courage of conviction which has built the American oil industry will be lacking when the country needs it most.

Secretary Ickes, regardless of the best qualities which could be set forward for him, is not experienced in oil-industry operation. For that reason alone he should not be "yessed" when a sensible "no" is the correct answer.

There is no need for a philosophy of planned scarcity. There is every need for the oil business to operate at top efficiency, not only because that will help to pay the cost of the war, but because proper efficiency will mean a more confident America. We wish to point out again the disastrous effect on American morale of a scarcity in the one commodity which the American people have been told, time and time again, is plentiful.

The oil industry knows, even if the public does not, that in the manufacture of gasoline, there is a very sizeable and necessary by-product known as burning oil, furnace oil, or light fuel oil—a product used for heating. Here is a market which the oil industry has built up and which is a necessary one to its efficient operation. The loss of any material part of it will throw a monkey wrench into

refinery operation. A stimulated or a planned scarcity, brought about by ill-advised recommendations from the Coordinator Ickes, would strike a blow at the efficient operation of the oil industry for years to come.

Too Late Now . . .

Japan has been able to force Britain and the United States to continue to sell it oil by threatening to strike at the East Indies if an embargo is applied. Both Washington and London appear to agree on the wisdom of propitiating the Japanese by furnishing them with more than sufficient oil to meet current needs. Consequently, if in the future, a showdown occurs in the Orient, a blockade of oil supplies would not immediately hamper Japan's fighting forces, and if the Japanese could gain control of the East Indies it has sufficient tanker fleet to cover all requirements.

Figure published by the United States Foreign Policy Association in a recent oil study shows that Japan has been obtaining approximately 25,000,000 barrels yearly from the United States. In addition, Japan has been securing about 9,000,000 barrels a year from the East Indies, which is to be increased to 13,800,000 barrels annually under a new agreement. Last year Japan also obtained 1,000,000 barrels from Iran and a small quantity from British Borneo. Altogether, Japan imported 35,000,000 barrels in 1940 and had a domestic production of 15,000,000 barrels, giving it at least 5,000,000 barrels more than apparent consumption. This addition to stocks is estimated to have increased Japanese inventories to at least a half year's supply.

Tax is Another Angle . . .

Gasolineless Sundays would have numerous effects not now generally foreseen. Among them would be sharp reduction of tax receipts in the East and disordering of state budgets.

Seventeen eastern states last year collected $314,000,000 in motor fuel taxes, and through gasolineless Sundays they might lose as much as $60,000,000 in collections. Part of the loss might be offset by larger receipts from other taxes. But the difference would have to be made up by other taxes, and it is indicated that payers of income taxes likely would be called upon to shoulder much of the burden.

Gasolineless Sundays in the East also would weigh heavily on the several oil companies that operate on large scale in that region. The Atlantic Refining Company, for example, does the major part of its marketing in that area, and at the same time, makes refining and marketing its principal business, producing only about one third of the crude oil it processes. Sun Oil Company markets in comparatively large volume in the East, although an important producer in the Southwest. Standard Oil Company of New Jersey and Socony-Vacuum Oil Company likewise are prominent marketers in the eastern states, although that business is only a part of world-wide operations.

If War Should Come . . .

Although industry has come under strict regulation of the government in emergencies, the restrictions will be further tightened if and when the United States enters the war and goes under the full powers that the President could invoke.

The oil industry would be vitally affected, as the use of fuel and power would be strictly controlled, along with all the forms of transportation employed by the industry. Pipe lines, trucks, railroads, air carriers, buses, and ships would be told what to carry and where to carry it. There would be no limit on the transfer of merchant ships to the Navy and Army. Manufacture of the various petroleum products would have to be in accordance with national needs as seen by the government, just as production of other consumer goods would be reduced, increased, or eliminated, depending on expediency. Labor for the oil industry, as for other industries, would be scarce, and it might be necessary for the government to regulate the labor supply, as well as to assume control over the movements of capital. Taxes would become increasingly heavy, and although the heavy costs could not be paid currently, a large part of corporate and large individual incomes would be used to apply on the mounting bill.

The above possibilities are especially significant when viewed in the light of the attitude of Congress, which appears to be resigned to any move that the administration may decide to make. The mentioned possibilities appear to assume the form of future actualities, when considered along with this congressional attitude and the predictions that are coming to be made as to when—and not if—the country becomes actively and unreservedly involved. War-ready cabinet members grow bolder in their assertions, and some military men foresee the possibility of United States entry as early as four months from now.

Price Control . . .

Price-control legislation that will be asked by the administration is expected to encounter strong opposition in Congress. The Office of Price Administration and Civilian Supply, which has prepared a price-control bill, wants it passed mainly in order to obtain power to punish violators of price ceilings which it already is fixing, under the emergency powers of the President. Hearings would be held before the setting of top prices.

At present, OPACS can enforce regulations only indirectly, through executive orders. This, according to the OPACS, is undesirable, as it might hold up production.

While the OPACS claims legal authority for its present activities, such power is much disputed in congressional quarters.

The oil industry has been among the first to be confronted by frowns of the OPACS, despite the fact that recent increases of oil prices have represented only improvement over depressed prices. Gasoline weakened progressively last year, and in December the price hit a 7-year low, which was close to the depression bottom. From that low of 8½ cents a gallon as of December 1, the average dealer price in the United States has improved to approximately 10 cents a gallon. Other products also have improved moderately, and the average price of crude oil has been increased in two major advances, about 17 cents a barrel, from the former price of about $1. The industry has made these advances in compensation for increases in costs of materials, wages and salaries.

But the OPACS has asked that further increases be discussed with it before instituted, saying that advances should not be made except to cover increases in costs. The agency has induced a major company to delay a scheduled advance in prices of several products, and currently is studying data on the latest California crude price advance, with the object of deciding whether or not it will consider the increases justifiable.

Crop of Dragon's Teeth

ATTORNEY GENERAL JACKSON says the strike at Inglewood, California, was of the nature of an insurrection; national officers of the CIO cry "communism," and the Army commandant at the plant refuses (very properly, 90 percent of American citizenship will agree) to allow the strike ring-leaders to go back to work.

Suddenly the government discovers something with which the papers have been filled for years, that the communists have got control at many strategic points in labor, and, once in control, throw all their weight to disrupt the industrial affairs of the country.

As long as it was a sit-down strike, forced seizure of private property in violation of the law of the state, as well as a violation of the rights granted by the constitution, Governor Murphy of Michigan, now Supreme Court Judge Murphy, could not find enough fault with the CIO reds even to attempt the protection he had sworn to provide all law-abiding citizens and property. And Secretary of Labor Perkins, reason for whose stay in the President's cabinet is a national mystery, could not find any violation of law in the lawless acts of the strikers.

But now when the dragon's teeth, sown by the President and his advisors, including Secretary Perkins, have grown their deadly crop, the Army is necessary to put down what Attorney General Jackson called an insurrection.

Communism is now a thing to be abhorred by government officials, although charges are made without refutation, that there are communists in important positions on government payroll, and today, if a private plant, not engaged in defense work but producing materials essential to the welfare of the people of the United States, were to fire a workman because he was a communist, the NLRB would be on the neck of the officers of that plant without delay. The racketeers and the reds in labor know this—and the country knows that the solution to this problem is not the Army.

The Wagner Act was hailed by those who favored it in Congress as a law which would bring industrial peace to a distraught country in the midst of a depression. Of course, they knew better, these men who dealt in words only conceived to deceive. They knew that they were proposing a law which would turn industry, and the public, over to racketeers and communists.

And how, now, has this law, designed to bring peace to industry, worked? It has worked to lay industry, and the worker, both prostrate before those with nerve enough to take full advantage of it.

The Bill of Rights says something about guaranteeing life, liberty and the pursuit of happiness, by which we believe it is not unreasonable to reach the interpretation that if a citizen desired to work without paying tribute to a labor union, he would be entitled to that right.

But every American knows that under the Wagner Act as interpreted by the labor board a man may be deprived of that right by a strong-arm squad, which would be upheld by red-ridden henchmen of a pink NLRB.

In the desire to cater to a left-wing group of laborers, the administration has forgotten that the effect of misuse of rights granted to labor could boomerang against the conservative labor union members who were neither reds nor henchmen of racketeers. This boomerang has struck, just as it is inevitable that it should strike.

Unbridled power usually is misused. Privilege without responsibility always comes to a sad pay-off.

Labor will be fortunate if Congress takes into its own hands the matters it turned over to a more than incompetent NLRB and fixes the rights, and the responsibilities of labor, before the indignation of the public swings to an unreasonable extreme.

We are told that one reason prohibition was a failure was that it made possible the accumulation of large funds in the hands of the vicious gangster, giving to that gangster the thought that he was above the law. The same thing has resulted from the Wagner Act, plus the doubly dangerous fact that the communist has had practical protection while, side by side with the racketeer, he has sabotaged American industry, now sadly needed, and American citizenship as well.

EDITORIAL

By RAY L. DUDLEY
Publisher

THE OIL WEEKLY
JUNE 23, 1941
Vol. 102 No. 3

Washington Oil Round Up

Ickes plans five regional industry coordination committees . . . Britain may use Gulf oil . . . Transfer three tankers to Gulf duties . . . Stop East coast export shipment . . . Cole pipe line hearings June 23 . . . Expect tanker load bill passage

DEFENSE CONTROL of the oil industry took shape last week as a cooperative project, with a minimum of compulsion, as Petroleum Coordinator Harold L. Ickes and Deputy Coordinator Ralph K. Davies placed upon the industry itself the burden of working out the solution of the transportation problem which now faces the Eastern states and the revolutionary changes in production, refining, transportation and marketing they foresee in the future because of the national emergency. Nearly 1000 oil men gathered in Washington June 19 to hear Ickes, Davies and other government officials.

There was no hint of compulsion in the addresses of officials who addressed the conference, other than a suggestion from Leon Henderson, Director of OPACS, that unnecessary and unjustified price increases would not be countenanced.

Coordinator Ickes, whose approach was in contrast with that of Code Administrator Ickes in 1935, urged the industry to continue the hearty cooperation which it has been extending.

Plan Committees

Ickes and Davies outlined a country divided into five zones, in each of which there will be industry committees for such of the four branches as may be engaged in the respective regions. They asked that nominations for these committees be submitted within the week, so their organization might be completed without delay and the plans for meeting the emergency, which now are vague but are to mature quickly, might be put into effect at once.

Overshadowed by the very size of the conference, but probably equally important in their immediate effects were a number of other developments during the week, including:

Decision of the Senate Interstate Commerce Committee to hold immediate hearings on the Cole Pipe-Line Bill;

Disclosure by the Maritime Commission of the untruth of charges that American-owned tankers are carrying oil for Axis powers;

Halting by Coordinator Ickes of a shipment of oil from Philadelphia to Japan, followed by a flat embargo on export of oils from the Atlantic Coast;

Indications that the Senate would pass immediately the bill providing for a 3-percent increase in load-line limitations for tankers, so each boat could carry larger quantities. Transfer of three tankers from California to the Gulf-Atlantic run so they could make more trips to the East coast;

A promise that an effort will be made to see that American refiners shall be allowed to participate in furnishing oil supplied Britain under the lend-lease program;

Criticism of the government's oil program in Congress, with the drafting of legislation prohibiting employment by the government of any officer or director of a company involved in a successful government anti-trust prosecution;

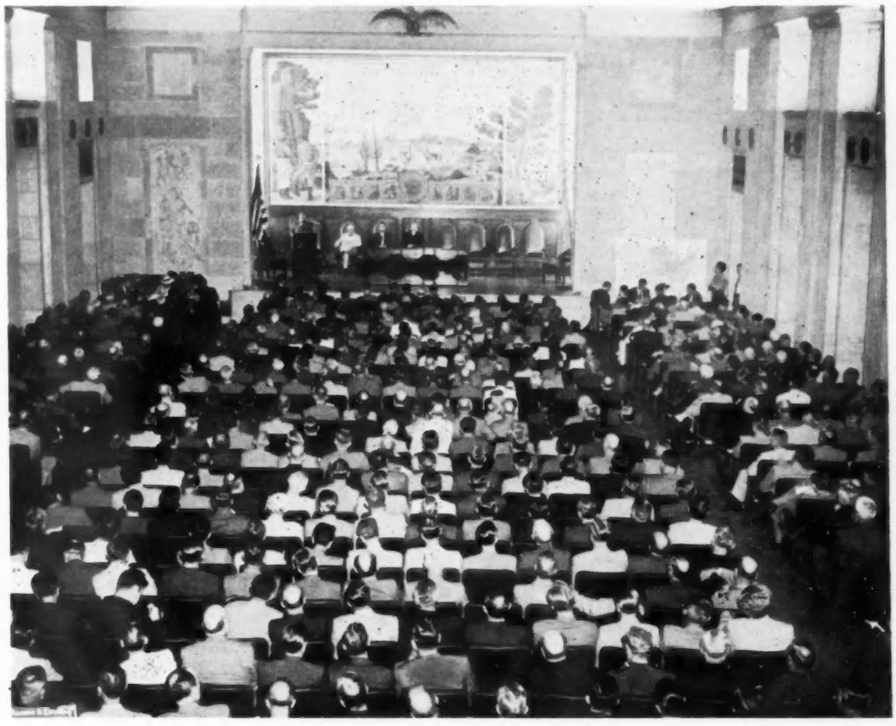
A threat by Ickes to withhold pipe supplies from Illinois because of "criminal waste."

Washington Conference

Greeting nearly 1000 oil men who, at an estimated expense of more than $100,000, had come to Washington to see what the government had in store for them, Ickes disclosed that any program laid down will be cooperative in character and called upon all four branches so to readjust their operations "that maladjustments in one part do not produce disruptive repercussions in the other parts."

The coordination effort will be set up in four main divisions—pro-

Defense Oil Coordinator Harold Ickes, right, and Assistant Coordinator Ralph K. Davies pictured at the conference with leaders in the petroleum industry at Washington, June 19.—(Harris and Ewing Photo).



General view of the Department of Interior auditorium as representatives of the petroleum industry met with Defense Oil Coordinator Harold Ickes for a discussion of plans to further the effective use of oil.—(Harris and Ewing Photo).

duction, refining, transportation and marketing—he revealed; the country will be divided into five regions which will be "properly officered," and the industry will be well represented by committees which at all times will work in close relation to the government organization.

"Petroleum has become such an essential in all our lives that it is almost as necessary as water," he said in explaining why the coordination program was initiated. "It is an important component of the life blood of American civilization and, like water, so common that its vital importance is not recognized by most people until there is a threatened shortage."

Touching briefly upon the transfer of tankers to British service, he pointed out that "as a result, the transportation problem has become one of immediate importance and to its solution I am sure you are now and will continue to direct your utmost effort.

It becomes "your duty and mine to keep things running smoothly and that is where all of us here enter directly into the problem of coordination. There probably are very few oil companies that do not have in their organization some group of men who work to coordinate the various departments and establish what is called the company policy. In the organization of my office I do not envision a much different organization, except that the number and variety of parts here are much greater than in any corporation, and consequently we have an extraordinary necessity for extensive representation."

Ickes to Keep in Close Touch

Ickes made it clear that he would keep his finger on all the activities of coordination, although Deputy Coordinator Davies will be in actual charge. "I do not expect to be an ex officio coordinator, for I am vitally concerned with all petroleum problems from the finding of oil to its use by the smallest consumer," he said.

"Highly competent men who have had long, varied and practical experience in dealing with petroleum problems" will be sought, he disclosed, explaining that it was the desire to secure such a man as deputy coordinator which led to the appointment of Davies.

Assuring the industry that the movement would be one of cooperation and not compulsion, Ickes became very definite as to the broad objectives on which his organization would be based.

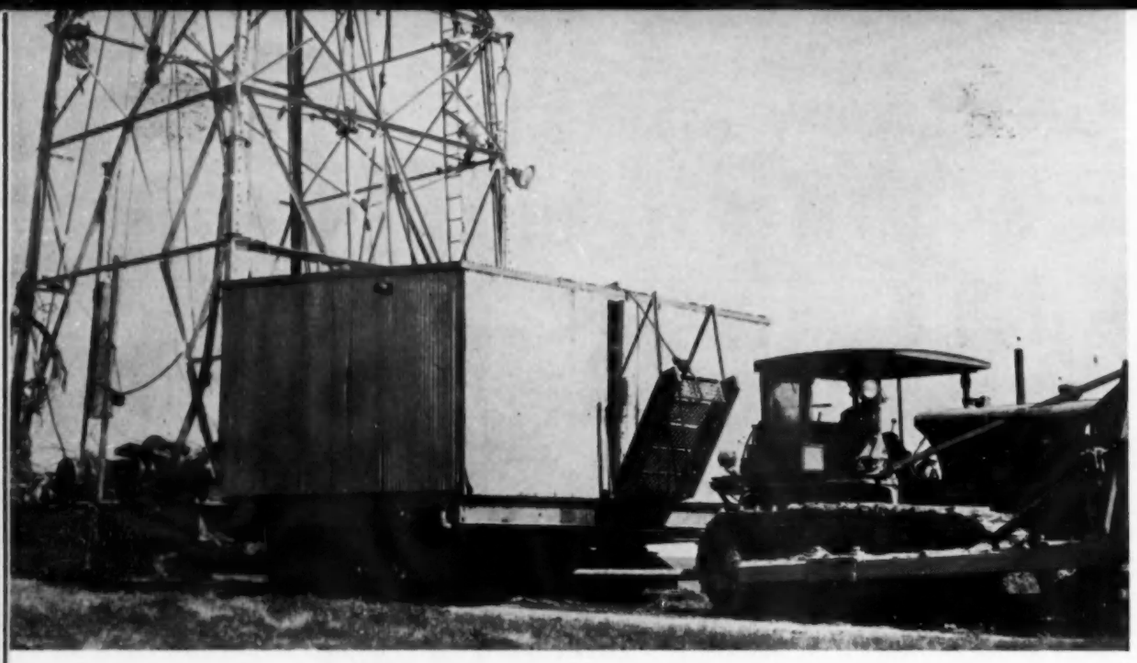
"The office of the Petroleum Coordinator for National Defense is not established by a specific organic act, and consequently the administrative problem is not one of enforcement," he said. "It is not based on the theory of punitive action, quite the contrary; it is anticipated that the solution of most of our problems will be secured by all parties becoming informed and then working out an agreement to which all parties adhere on the basis of their honor and because of an urge to help defend their country.

"Some of these agreements it will not be easy to accept because results cannot always be accomplished without pain and suffering. Yet we must all be prepared at times to sacrifice immediate gains for the future welfare of our country, and it is my hope that the sacrifices, as well as the gains, may be shared equitably by all."

Divided into Zones

Ickes explained that the country would be divided into zones corresponding to the present set-up, one zone taking in the Atlantic coast, another the Pacific coast and a third the south, with the north central region divided into two zones. Location of the regional offices has not yet been settled, he said, but there will be only small staffs, probably a regional director and his necessary clerical assistance and an industry committee.

[Continued on page 53]



The 87-foot steel derrick, drawworks and engine house, as a unit, is easily towed and maneuvered to new location with a single tractor. Center of gravity is only 16 feet above the ground, so little danger from tipping over is present while moving on average ground.

Unitizing Speeds Up Operations on

Highly Portable Unit

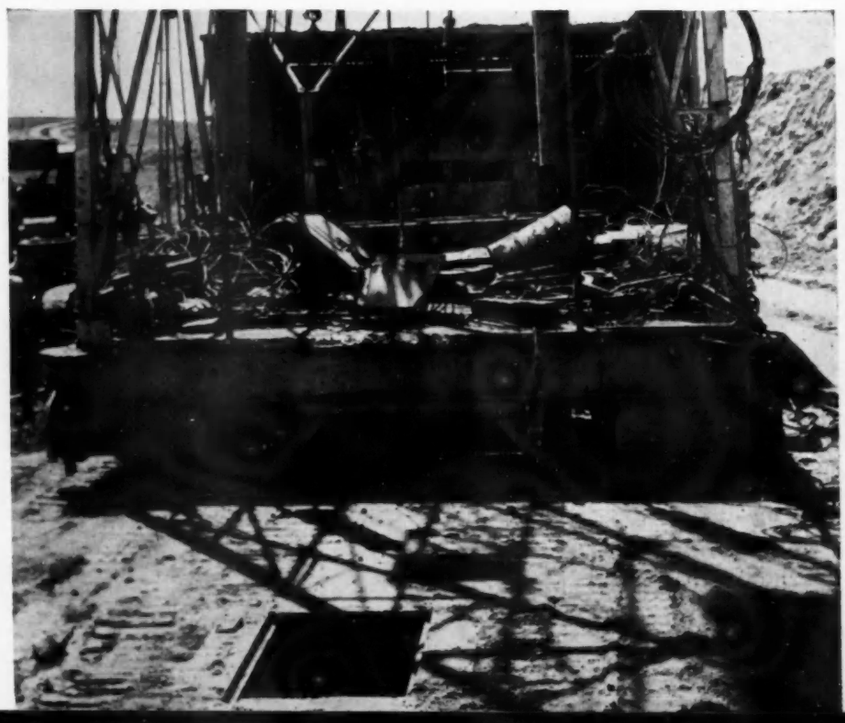
By GILBERT M. WILSON, Staff Writer

EMBODYING a number of new principles of application, along with many new minor innovations, a portable, entirely unitized rotary drilling outfit has just been put in use by Shell Oil Company in California. It consists of three major pieces, each mounted as a self-contained separate unit on track-laying wheels, that permit them to be moved by tractor from one location to another. When spotted and joined together on the location, each unit becomes an integral part of a smoothly functioning assembly that is definitely aiding in lowering the transportation and drilling costs of each well.

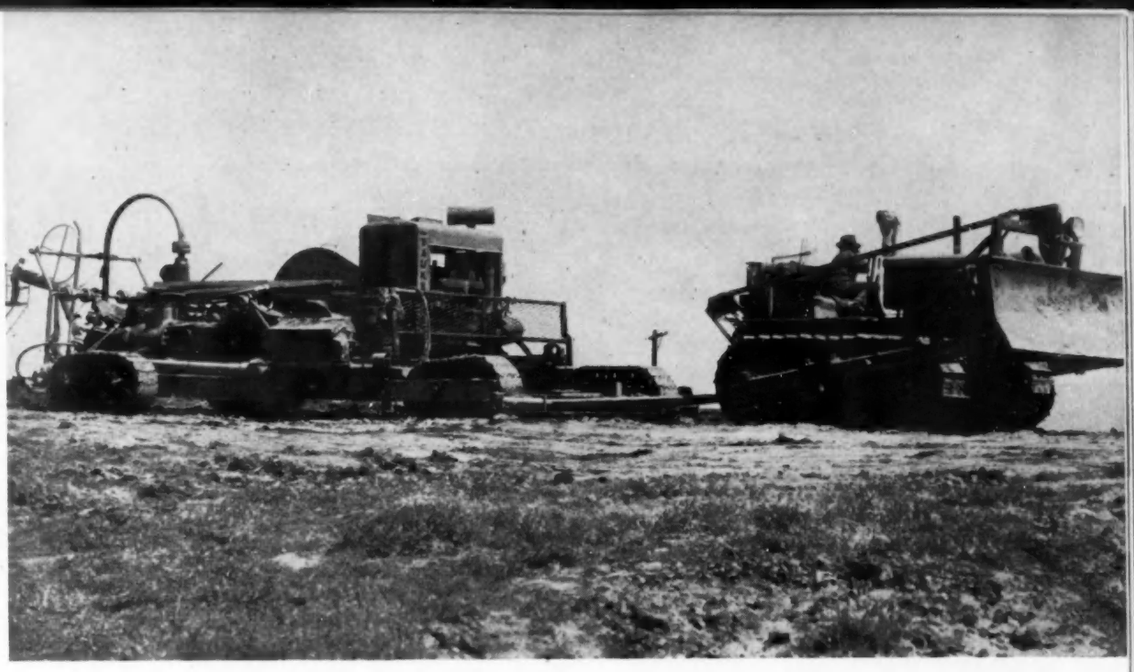
The three principal units are essentially: an 87-foot specially built derrick with an 18-foot base, and draw works powered with a 185-horsepower butane engine; a 40 feet long by 16 feet wide pipe rack that is connected to the derrick on the side opposite the draw works; and the mud pump unit consisting of a 7¼ x 14 power pump and a 185-horsepower butane engine, mud-section line and mixing gun. A fourth unit, a 20 feet long by 8 feet wide dog-house, containing lockers, lavatory and desk, was not mounted on track-laying wheels but is carried on two large steel-spoked, flat steel wheels.

With the exception of the fourth unit, each of the units has a steering end to which is attached a sturdy draw-bar to be used by the tractor for pulling and maneuvering of the unit. A large diameter king-pin made from a section of 9⅝-inch, 40-pound casing, about which the front trucks turn as a steering unit, provides a large bearing surface, and results in easy control of each unit while being moved.

The sub-structure of each unit is constructed of bolted and welded heavy steel I-beam longitudinal as well as cross-sectional members,



Derrick as it is being maneuvered into position over the small previously-prepared cement-lined cellar. Upon completing the well, the casing head is landed so that sufficient clearance is present to allow the derrick to be pulled off without removing sub-structure.



While the pump unit is being moved, steel walk ways, steps and miscellaneous outside fittings are made to fold up out of way of wheel treads.

while short sections of heavy drill pipe serve at certain points as diagonal bracing. It was foreseen that it would be practically impossible to transport the equipment fully assembled along public highways because of excessive width, so provision was made in the original design for the easy breaking down of the bases, wheels, draw works, pump and engine units, into separate pieces, each being not more than 8 feet in width, for easy transportation by truck. The units are broken down in this manner, however, only when they are to be transferred from one operating division to another.

The draw works and derrick unit is mounted upon two 15-ton wheels at the rear, and two 10-ton wheels at the front, or steering end. The former are approximately 15 feet between the centers of the treads, while the front wheels measure 8 feet 10 inches apart. The front wheels are designed to allow a 56-foot turning radius.

At each new well the unit is maneuvered over the previously prepared cellar as closely as possible to the center of the conductor pipe. Very little time is spent, however, in attempting to spot it over the exact center, as a means is provided for moving the rotary table several inches to one side or another in locating it exactly over the hole. Two 6-inch angle iron sections 5 feet long, slide along the two heavy I-beams upon which the table rests. Four 2-inch by 20-inch bolts with nuts serve as adjusting screw jacks at each corner. The crown block then is moved over slightly so as to center it over the hole in the table.

An interesting and important time-saving factor that cuts set-up time to an absolute minimum has been developed for setting the large diameter mud conductor pipe at each well.

A 36-inch section of 20-inch I.D. pipe is belled out an inch or two on each end. One end is set several inches deep in the bottom of the concrete lined cellar, at the time the location is prepared in advance of the drilling operations. Instead of resorting to the usually accepted method of welding the top section of the pipe to this lower cemented-in section, the upper section is slipped down inside the lower one for a distance of approximately two feet. A 3/8-inch thick steel band two inches wide, welded laterally around the circumference of this top section provides a stop on which it rests in the lower section. A rubber gasket is used to seal off the joint.

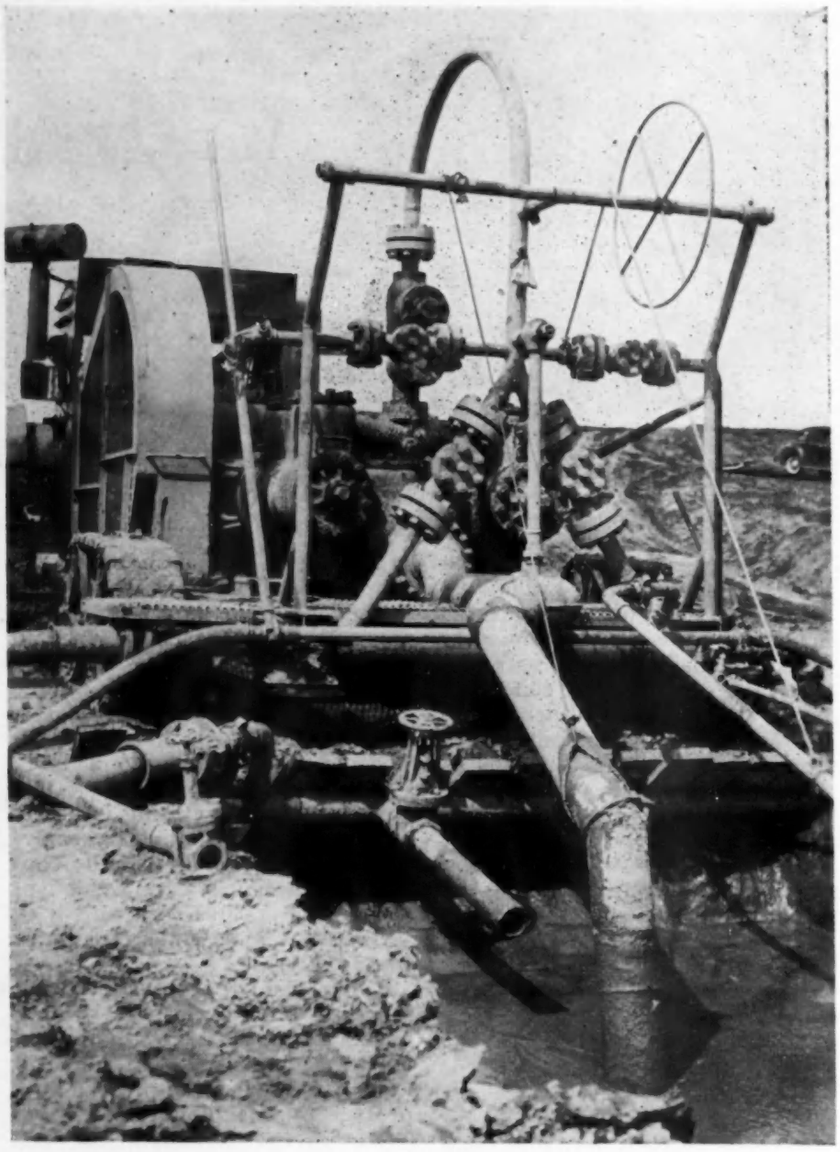
Rotary table is adjusted to center of the conductor pipe in the cellar by a jack screw when it is not practical to maneuver the entire derrick unit exactly in position. Following this adjustment, the crown block is shifted slightly to match the exact center of the table.

The short outlet pipe nipple welded in the side of the top section is connected to the mud-ditch flow line by means of a large clamp.

No welding or cutting is necessary for either installing or removing the upper section of the conductor pipe. Two ears welded to the side near the top, permit it to be lifted with the aid of a light line.

While this particular application may not be suitable for drilling wells where high bottom-hole pressures are anticipated, it does fill a definite need in the present low-pressure-sand exploitation.

During drilling operations, the derrick does not rest upon the wheels but is jacked up at each corner until all weight is supported by the jacks, after which pedestals are placed under the corners. Only the derrick unit is supported in this manner. Both the rack and pump units rest upon their wheels at all times. For the sake of speed in setting up the derrick unit, a novel innovation in the form of a hinged pedestal, 30 inches high, is used under each of the two front legs of the derrick. Hinged on each side to the bottom side of the heavy floor frame, these pedestals are split down the center vertically, and are bolted together while in use, but upon moving, each half is split and swung up to hook upon light chains provided for that purpose. A slightly different arrangement, using a removable steel support, 12 inches high, is used at the



Four 5-ton wheels support the mud pump on a low-swung broad base. The space-saving arrangement of intake and multiple discharge line and fittings on rear of the assembly makes parts accessible for maintenance.

other two corners. The pedestal at each corner rests upon a crossed double layer of 3 by 12-inch planks six feet long. While resting upon these corner settings, the derrick floor is at approximately truck level.

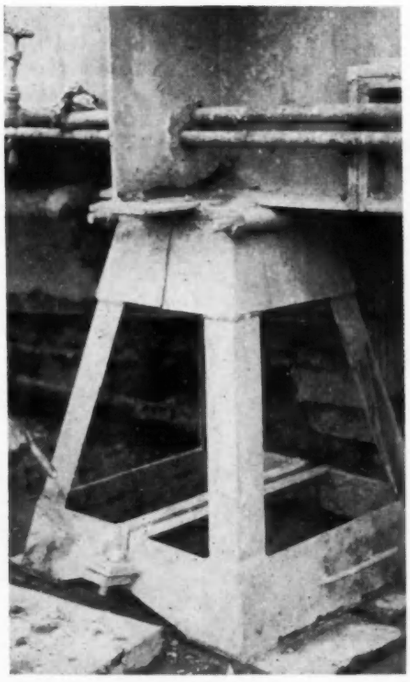
Demountable in Sections

The manner in which the floor sections are bolted together for break-down purposes is illustrated by the step-flange or beam union joint shown in one of the photographs. All water and fuel lines, mounted permanently along one side of the derrick to correspond with the rack section, have hoses and quick-acting couplings on the ends to make it a simple matter to connect the lines. The steel frame corrugated metal-covered engine house covering the draw works can be dismantled and taken down in 8-foot sections, but this is done only when the assembly is to be completely dismantled for moving to another district. The engine and draw works likewise is assembled in such a way that it can be broken down into not greater than 8-foot width sections. These heavier sections are skid-mounted in order to facilitate mounting them upon the derrick base members.

For the sake of speed in setting up the derrick unit, a hinged pedestal is permanently mounted under each of the two front legs of the derrick. The pedestal is split vertically, and when the unit is moved, each half is swung upward to hook upon light chains provided for that purpose below the floor.

The rat-hole pipe, made of a length of 8⅝-inch casing closed at the bottom, is carried along from one location to another. A short length of 2-inch pipe clamped around the top of the casing allows the rat-hole pipe to rest upon a pair of wooden blocks on either side of the hole. A belled top made from a short section of 14-inch pipe welded to the top of the rat-hole pipe, accommodates the kelly bushing when the kelly and swivel are placed in the rat-hole. As the top of the rat-hole pipe is below the level of the derrick floor, this belled section also aids in guiding the kelly into the hole as it is being lowered. A steel grating covers the opening in the derrick floor when the rat-hole is not being used, thus providing more floor space between that side of the derrick and the rotary-table-chain cover.

A manifold on the bottom side and at the rear of the engine house for 2-inch water and mud lines, provides for a permanent assembly of those lines to the derrick and stand pipe. These manifold lines also extend to the opposite corner of the engine house where they are conveniently mounted for use by the cementing truck when the time for that operation arrives. Thus, without moving or laying any lines, the mud and/or cement and water lines become intercommunicable between the cementing equipment and the well equipment by merely changing several valves. The location of the lines in this position



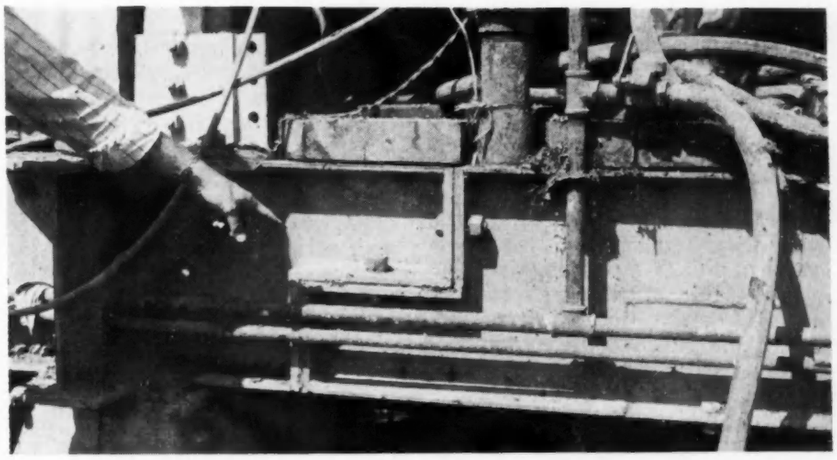
makes it possible to connect up the mud pump ready for operations in minimum time.

The combined weight of the complete unit, including derrick, draw works, engine, wheels and sub-structure, as well as the crown and traveling blocks, totals approximately 61 tons. This figure does not include the weight of the drill pipe. With all equipment in place for drilling operations, exclusive of drill pipe, the center of gravity is only 16 feet above the ground. For this reason guy lines are not used unless strong winds make them advisable. The lower 40 feet of the derrick is a specially designed tapered section. The entire unit, with the crown block still in place, can be hauled up a 10 percent grade without danger from tipping, while the under-carriage clearance is designed so as to allow ample clearance between the front and rear trucks as the unit is pulled over the crest of such a grade upon reaching level ground. If road conditions are exceptionally rough, the common practice in pulling the unit is merely to lower the blade of the bulldozer, clearing or smoothing the road surface as it goes along.

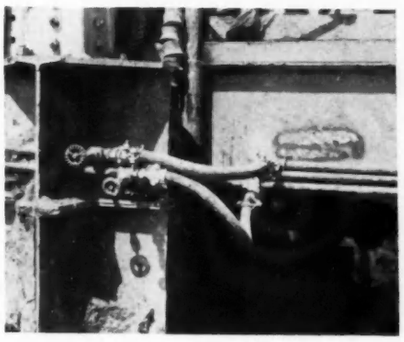
The draw works is of the single drum type with air-controlled friction clutches. The gear box gives five speeds forward and one reverse in the transmission, but two different speeds are available in the drive shaft, thus giving a total of 10 forward and two reverse speeds. The controls of the automatic, air-controlled cat head are within easy range of the driller while he is standing at the draw works controls.

A 4½-inch by 41-foot kelly normally is used. The 17-inch rotary table is of the oil-bath type, and has a dead load capacity of 25 tons. A three-sheave traveling block using 1-inch wire line is supported by a single-deck four-sheave crown block.

A novel and practical idea is contained in the way in which the weight indicator is handled. Instead of attaching the stand to the base of the unit where vibrations might tend to give misleading readings, the bottom end of the 3-inch pipe supporting the board-mounted gauges extends through a hole in the floor and is imbedded in a heavy concrete weight that rests independently directly on the concrete slab surrounding the well cellar at ground level. The weight consists of an 18-inch length of 14-inch pipe that is filled with concrete. While the rig is being moved, the stand and weight is merely pulled up several feet into the substructure and there tied until let down at the next location.



Step-flange or beam union joints are provided in the floor sub-structure of the derrick, in order to facilitate the breaking down of the entire assembly into 8-foot wide sections for shipment to any other operating division.



All water and fuel lines are mounted permanently along the side of both the derrick and rack units. Hoses and quick-acting couplings make it a quick and easy matter to connect up the corresponding ends of the lines when the units are joined at each new location.

Pipe Rack Serves Dual Purposes

The pipe rack plays an important part in both the drilling and moving operations. While drilling, its 640 square feet of flat deck area allows ample room for the stacking of both drill pipe and casing on either side of the 40-foot center walk or aisleway. The heavy I-beam base and substructure is covered with a flooring of 3 by 12-inch planking, similar to that of the derrick floor. Removable, 2-inch railing supports spaced at intervals along each side of the rack, are set in sockets of 3-inch pipe welded to the side. The removable lay-down post, conveniently located at the far end of the rack, is set in a heavy pipe socket welded at an angle to the side of the steel base. The rack is butted against the floor on the window side of the derrick. Planking is used beneath the rack wheels to bring its floor up to the same level as that of the derrick.

The string of drill pipe, normally handled and stacked in the derrick as doubles during drilling operations, is broken down into singles and laid down on the rack for easy moving from one location to another. The kelly, swivel, rat-hole pipe, lines, blocking, and all miscellaneous items likewise are conveniently carried in a single trip.

For truck transporting between division points, the rack is constructed so that it can be broken down into two sections of 40 feet by 8 feet in size.

Mud Pump Unit

The mud-pump unit is supported on a low structural steel base that is mounted on four 5-ton wheels. The low broad base is made possible by spacing the wheels in each truck slightly over nine feet apart.

The slow speed required by the 7¼ by 14-inch power pump is obtained by the use of a two-speed, chain and sprocket counter-shaft speed reducer. From this point the pump is driven by V-belt pulleys.

A space-saving arrangement of the intake, and multiple discharge lines and fittings, is used on the back end of the unit to good advantage. Discharge from the pump is brought up vertically, then on down toward the rear in a broad loop to connect with the various lines assembled together in an inverted Y. One leg of the Y leads directly to the stand pipe in the derrick, and the other leads to the

mud-storage tank located nearby. One of the horizontal lines, shown connected into the line near the junction of the two Y legs, leads over to a mud-mixing gun, while the line on the other side extends down to the ground level and on over to the dry mud-mixing jet several yards away. The mud pressure shear-relief valve also is located at this Y junction, with the by-pass line emptying vertically into the swivel-jointed mud-suction line. The high-pressure plug-type valves and all fittings of this mud manifold lend it to quick operation and transportation, while at the same time making such fittings easily accessible for service and repairs.

A 3-inch swivel-type steel mud line connects the pump to the manifold (previously described) that is mounted on the back end of the engine house.

The pump is capable of delivering 470 gallons per minute at 55 r.p.m.

Steel grating walk ways that are installed at several points around the pump, engine and discharge manifold, are made to fold up and be tied out of the way of the treads of the wheels while the unit is being moved.

All-Purpose Dog House

Comfort and convenience of the men was well foreseen in designing the two-wheeled, all steel dog-house that is towed, along with the other units, to each location.

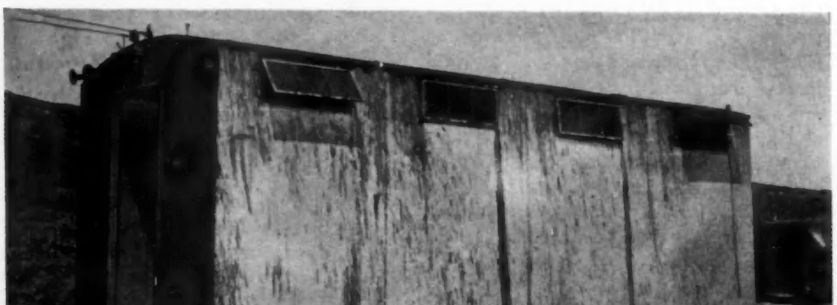
The interior is neatly spaced off, and accommodates 23 full-length steel lockers, a bench running the full length of the room, butane heater, and complete sanitary facilities including wash basin and septic tank. A wall-mounted desk, drawers for well records and permanently installed telephone connections are installed at one end.

While the present wells being drilled are approximately only 2000 feet deep, the drilling unit assembly is capable of drilling to 4000 feet if necessary. From three to five days, from the time of spudding, to the drilling out of the plug, drilling on through the sand, and hanging the liner, has proved to be an average of the elapsed time spent on each location. This is compared with the usual period of approximately 12 days that formerly was spent on each well using standard equipment.

When drilling time constitutes such a comparatively short period of time, transportation costs, if figured in the light of the conventional methods of tearing down and setting up, assume an extremely high percentage of the total costs of the well. It was with this thought in mind that the present equipment was designed and built, to make all sections or units sufficiently self-contained and transportable so that no A-frame trucks or special lifting equipment would be necessary in any part of the moving operations.

Moving Costs Reduced

While only five or six wells have been drilled with this unit up to the time of this writing, proof of the initial success of the original intentions of the design may be seen in the fact that all four units, including butane tank and several miscellaneous items, have been moved completely and spotted at the next location in approximately 2½ hours. This does not include the time that is consumed in the preparing and breaking down ready to move. After the drill pipe is laid down on the rack it ordinarily takes only two to three hours to disconnect hoses, lay down the traveling block, break out and load surface mud, water and fuel lines, and disconnect the units preparatory to moving.



Telephone connections, desk and drawers, ample locker space, heater and sanitary facilities are featured in the steel dog house that moves to each location with the drilling rig.

The pipe rack, measuring 40 feet long by 16 feet wide, provides ample space for drill pipe and casing during drilling operations. The track-laying wheels provide sufficient strength to permit transporting drill pipe and all fittings, pipe and blocking, in a single trip.

Heavy-Oil Exploration

to Follow California Price Advance

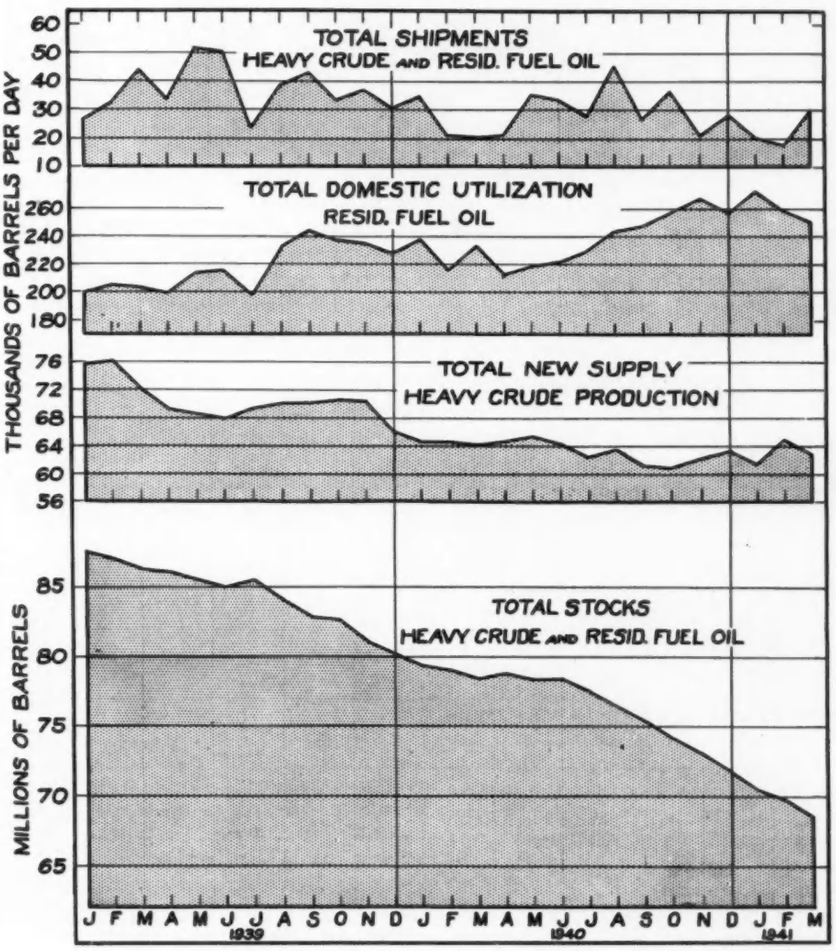
As a result of the recent continued strengthening of prices, particularly in the heavy-oil category, a step-up in heavy-oil exploration, drilling up of previously proven acreage, and opening of old shut in stripper properties is expected to follow immediately in California.

Since the general price drop that occurred in February, 1940, a particularly sharp disparity has existed in prices paid at the well for light and so-called heavy or fuel-grade crudes. Dropping to a low of 60 cents for all gravities below 19.9° from a previous level of 70 cents at that time, the prices paid for this product did not warrant operation and cost of maintaining many stripper wells and marginal properties that had been producing the bulk of this oil. This was particularly true of certain of the major operators holding extensive acreages in old Kern River, Kern Front, and other San Joaquin Valley heavy-oil-producing fields.

Due principally to demands of the national defense program, the rate of consumption, including out-of-state and foreign shipments, has risen sharply since approximately the middle of 1939, and particularly so since April, 1940. Total inventories of heavy and residual fuel oil stocks during this period has been shaping a downward trend.

According to statistics compiled by the United States Bureau of Mines, from January 31, 1939 to April 1, 1941, total storage of heavy oil and residual fuels has been reduced by 18,934,000 barrels, the stock on hand at the end of this period being 68,661,000 barrels. Competent authorities estimate that 60,000,000 barrels is the approximate minimum safe working stock of this product to have on hand.

While the inventory figure as of April 1, 1941, may not in itself be alarming, the seriousness of the situation becomes apparent when it is realized that in the nine month period beginning July 1, 1940, heavy oils and fuel oil storage was reduced by some 9,800,000 barrels, or well over a million barrels per month, with no evidence yet in sight for any significant levelling off of the demand.



Source of Data: Bureau of Mines and Oil Producers Agency of California

Coupled with the natural decline of the productive capacity of heavy-oil wells in the state, has been the fact that under the formula of uniform proration by means of which the Conservation Committee of California Oil Producers allocates production quotas, the volume of light oil produced has been increasing steadily while the output of the fuel-oil grades has been decreasing steadily. This is readily explained when it is realized that the greater percentage of all new production (with the exception of the prolific Wilmington field) discovered in the state the past several years has been light oil.

Evidence of the steady decline of the production of heavy oils is seen in the fact that in January, 1939, the production rate was approximately 2,271,000 barrels per month; in January, 1940, 1,941,000 barrels; and in January 1941, 1,848,000 barrels. If no new production were brought in, allowing this rate to steadily decline, while at the same time the rate of withdrawal were to continue increasing to points higher than the present million barrels per month, a serious shortage might easily result.

With the upward revision of heavy crude prices in the several

stages beginning March 12 of this year starting with a 5-cent increase; another on April 24 of 3 cents; and the latest increase of 5 cents pegging the price at 73 cents; the much-needed incentive has been created that will encourage many operators to make expenditures leading to the reopening of wells in many of the older fields, and create an interest in further prospecting for heavy oil. Greatest interest probably will be centered in the shallower San Joaquin Valley fields, where the heavy oil there is of relatively small sulphur content, making it more desirable from several standpoints, for adaptation to many of the uses or industries to which it is put.

Price advances likewise will partially offset the steady rise in operating and labor costs, and taxes that are being placed on the industry.

Out of a total of approximately 19,500 wells in the state, 4769 were classed as idle as of February, 1941. Of this latter figure, some 2000, or approximately half of the idle wells are heavy-oil producers. While most of these wells producing heavy oil are of the stripper class, it is not unreasonable to assume that a great percentage of them might be reconditioned and ultimately made to produce anywhere from 2 to 5 barrels per day, net oil. Experimental work now being conducted by one large company holding a greater proportion of the idle stripper wells in the Kern River field, involving the use of large volume turbine pumps in the shallow, high water-cut wells, may result in a substantial rise in the per-well net production of this field.

The use of highly unitized, more economically operated, portable rotary drilling equipment by a major operator holding large acreages of proven but undrilled locations in other San Joaquin Valley fields, as well as in certain of the Coastal heavy-oil fields, is already well under way, and is expected to add materially to this company's daily output and reserves of heavy oil.

Many other operators are currently planning on re-equipping many of their wells with modern equipment, as well as the drilling up of proven or semi-proven locations.

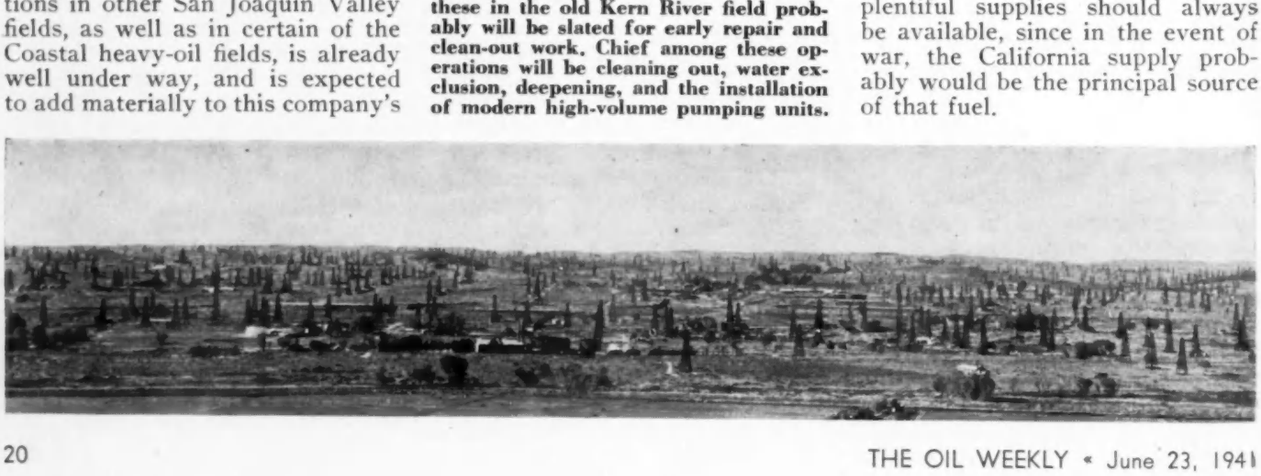
Southern California fields that are expected to see the greatest amount of new heavy oil activity include, for those in the San Joaquin Valley, Kern River, Kern Front, Mt. Poso and its surrounding areas, Round Mountain, and Maricopa-Midway-Sunset; in the Coastal and Santa Maria Districts, Capitan, Gato Ridge and Cat Canyon areas, and Santa Maria Valley.

Because of the recent action involving the transfer of nearly half of the coast-wise maritime shipping from the West to the East Coast in accordance with the plan of assembling the 2,000,000-ton shipping pool requested by the President, it is expected that the proper distribution of these products to the various industrial centers along the Pacific Coast as well as to Eastern points, may be seriously hindered. Out of some 100 ships that are at present in some form of intercoastal service, 40 eventually are to be contributed to the pool. Twenty of these are to be provided by the end of June of this year, and 20 more after that time.

Should the United States Navy be used for convoy duty in the Atlantic, some of the fleet, particularly the destroyer units, probably would be transferred to the East Coast, thus cutting down on the bunker oil volume of business that is of considerable direct importance to California operators.

Offsetting the transportation problem created by the transfer of coastwise vessels to the Atlantic is the ever-increasing volume of traffic and freight being carried by the railroads in the five Western States. Consumption of fuel oil by the railroads has been mounting at an increasing rate during the past year, an increase having been shown in 1940 of 12,700 barrels per day, bringing the rate of consumption for that year up to 82,000 barrels per day. As rail traffic increases, due in part also to the taking over of part of the hauling normally handled by coastwise tankers, consumption of fuel oil in that category also automatically will increase. Since the utilization of fuel oil has been steadily increasing in other industrial uses, it is entirely possible that the loss of market sustained by the departure of part of the fleet, may be offset in good part by the substantial increases in other markets in the five Western States.

From the standpoint of national defense, the recent price increases that have strengthened the heavy-oil market structure have affected a two-fold beneficial result. First, the possibility of a bottle-neck that might have seriously affected the West Coast defense industries' fuel supply, has been to a great extent avoided by the removal of the principal barrier—price—that has prevented the operators from economically expanding the production rate of their properties. Second, the improved prices will stimulate and encourage exploration that will result in the finding of more heavy-oil fields and future reserves. These reserves will insure a plentiful supply of the fuel that will be so essential to the maintenance of the bulk of the fleet, which will remain in the Pacific, and at the same time would permit the fuel needs of the defense industries to be supplied without interruption. Since the Pacific fleet also is scheduled for rapid expansion, it is of vital importance that plentiful supplies should always be available, since in the event of war, the California supply probably would be the principal source of that fuel.



Hundreds of old heavy-oil-producing shallow wells in California similar to these in the old Kern River field probably will be slated for early repair and clean-out work. Chief among these operations will be cleaning out, water exclusion, deepening, and the installation of modern high-volume pumping units.

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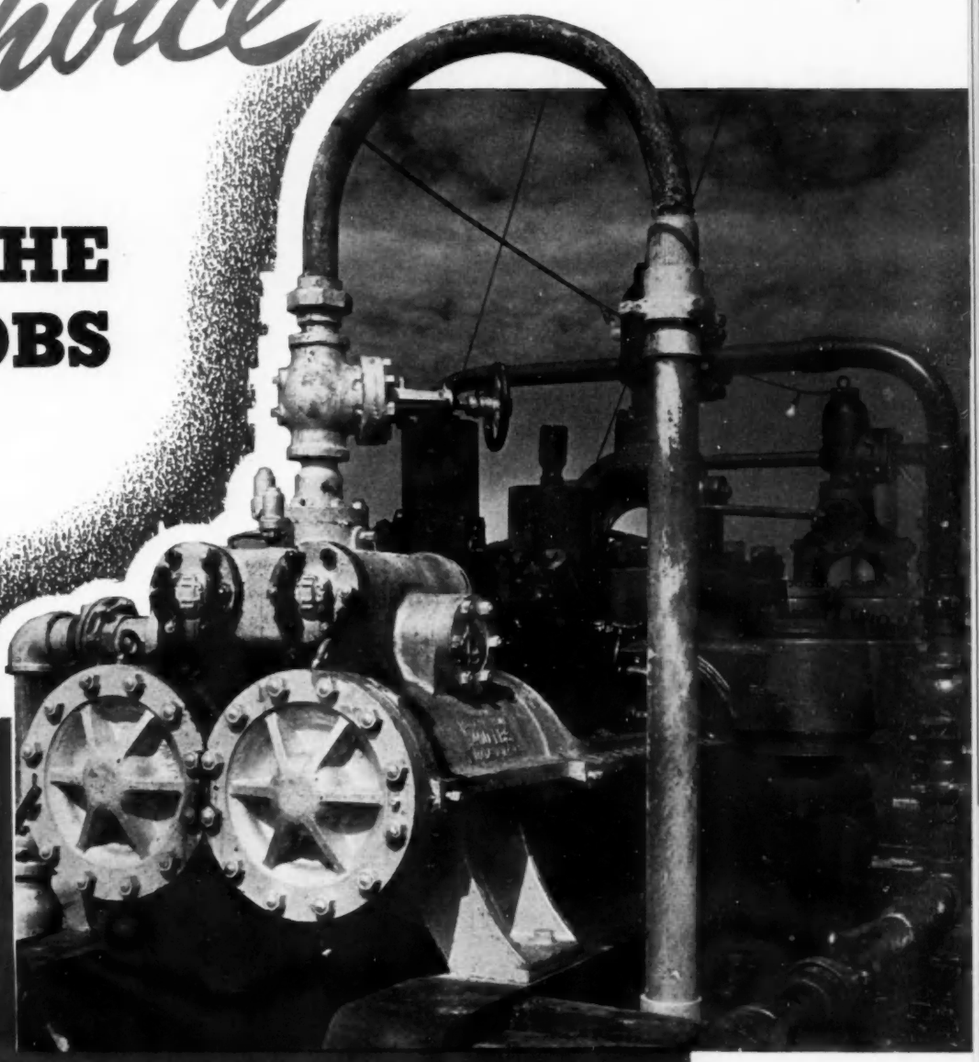

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SERVING THE OIL AND GAS INDUSTRIES

How to Provide

Training for Safety

By C. L. HIGHTOWER
Safety Director, United Gas Pipe Line Company

THE important question in accident prevention is no longer why but how. Today we know that accidents must be controlled in order to insure efficient operations and to conserve the worker's health and maintain his earning ability. These facts have been so firmly established that we do not ask "Why do we need safety." Instead we ask "How are we going to get it."

The best answer to that question is, "Make safety an integral part of operations." Correct job procedure will eliminate lost motion, waste and accidents, giving support to the statement that "safety and efficiency go hand in hand." There may be and usually are many different ways of establishing safety as a part of operations. To start with, physical hazards must be removed or safeguarded by handrails, toe boards, safe walkways, gear and fly-wheel guards, non-slip floor coverings, and the like. Proper lighting, good ventilation and correct sanitary practices are a vital part of the program. In addition, suitable protective equipment such as goggles, hard hats, gas masks, and safety belts must be provided.

Taking care of these physical hazards and providing protective equipment is highly important but the records show that this phase of the program alone will prevent less than 20 percent of the accidents. You ask "what then?" And the answer: training. Training and more training. If man failures account for from 80 to 85 percent of the accidents, the obvious answer is to teach correct work habits.

Safety cannot be dispensed like oil from a tank—by opening and closing a valve. It has to be planted, take root and be cultivated. It must be a part of every operation.

Since accident prevention must be set up as a part of the job it follows that safety training is in effect job training. Where a job is properly planned and the work done right accidents do not occur.

Foreman Logical Safety Teacher

Who is best qualified to do the training job? Others may help but in the final analysis the task rests with the foreman, and properly so. His knowledge of job technique and procedure and the opportunity afforded for observing the man's work habits and studying his characteristics, places the foreman in a position where he can fit the man to a job to which he is physically and temperamentally suited and guide him in developing the technical skill necessary to perform the job efficiently and safely.

Safety training should start with the interview of the applicant. A question here and there as to the applicant's knowledge and interest in safety and his past accident record will serve to impress upon him that his prospective employer considers accident prevention of equal importance with other phases of operation and wants only safe workmen in his employ. At this stage of the game the man is in a receptive mod and any safety lesson that can be impressed is likely to be lasting in its effect.

It is highly important to start the new man right. Proper "breaking in" lays the foundation for future training and development. A sympathetic and understanding attitude on the part of the foreman will go a long way toward relieving tension and fear and help to make the new man feel at ease. A proper introduction to his fellow workers in the crew or gang will also pave the way for his acceptance. These are seemingly unimportant things but it is only necessary to think back to our own experience on a new job in a strange organization to realize what it means to the new man to receive a word of welcome and some indication that he is being accepted as "one of the gang." Contrast such an introduction with the case of the man who is handed a pick and shovel or a wrench and told to "fall in." Which of the two is most likely to develop an interest in his job and his company? Which of the two will be most likely to ask questions if he does not know or understand? The answer is obvious.

Explanation of Hazards

As teachers, one of our biggest mistakes is in assuming that the pupil knows a thing because it has become a simple routine to us by reason of years of practice and experience. In a new environment even the most simple tasks can appear complicated. Because of these conditions the foreman must take time to explain and demonstrate procedures and methods of work. Effective teaching involves three distinct steps. First, tell the man exactly what to do; second, show him, and third, observe his performance to see that he has learned the right way.

Teaching at this point should especially include an explanation of the probable hazards of the work and the precautions to take in order to avoid these dangers. Inspection

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as to use of protective equipment such as hard hats, goggles, safety belts, and gas masks is also necessary. This instruction should include an explanation of when and how the hazards are encountered and a demonstration of how to use the protective equipment provided.

Old timers on the job can be of invaluable assistance to the foreman in getting the new man started right. If they are asked to help and made to feel that they have a responsibility in this important work of training and job organization these oldtimers usually will respond with enthusiasm. By "sandwiching" in the new men with the old the foreman can secure the help of many well-trained and experienced teachers. It does not relieve him of his responsibility but certainly it lessens the work, all of which would otherwise fall on him.

Training is a continuous process. It is never finished. There are four reasons why this is so:

New employes are continually coming into the organization. They must be trained in the best known and established practices for doing the work.

Employes are being transferred from one job or one department to another. They must be informed on the new work to which they are assigned.

Experienced employes must be reminded. They forget or become lax and develop habits of chance taking.

Keeping Pace With Change

New processes and new equipment presents new problems. There is nothing permanent but change and we must keep our men informed as to new methods and improved equipment in order to solve the problems that develop with changing conditions.

The most effective method for training in safety or other phases of the job is individual instruction and demonstration on the job. There are other mediums, however, which the foreman can utilize to advantage. Calling on the experienced old timer has already been mentioned. Then there are vocational-training classes, company operating meetings and safety meetings. The workers participation in all these meetings is helpful in safety training as his knowledge of safety increases in proportion to the increase in his knowledge of correct methods and procedures.

A large number of oil and gas companies are sponsoring vocational classes among their employes. Basically these courses are designed to supply the student with information and facts that will enable him to perform his regular job with greater ease and efficiency. Text material used has been developed by the Topical Committee on Vocational Training, Division of Production, American Petroleum Institute, working in cooperation with the various state departments of vocation and industrial training. Information on the organization of classes and a list of text material available may be obtained by writing the Secretary of the Division of Production, American Petroleum Institute, Continental Building, Dallas, Texas.

Job training courses are conducted by some companies but because of the variety of subjects covered and the different training methods employed no effort will be made to cover this phase of training.

Safety meetings are almost universal in the oil and gas industry and in most cases they are held at regularly scheduled intervals, frequently on a monthly basis. The difficulty does not seem to be the lack of an opportunity to meet but rather a problem of finding interesting and instructive subjects to talk about. Since the safety meeting provides a common and also a most effective medium for training it is felt that a discussion of tools and techniques which have proved themselves worthwhile would be helpful to foremen and others who are charged with the responsibility of planning and conducting safety meeting programs.

Safety Meetings

It seems advisable in the beginning to make some distinction in types of safety meetings. Generally speaking, they conveniently divide themselves into three classes. First, there is the "safety rally" where all employes of the plant or district are called together for special occasions to hear important announcements on safety, receive recognition for good "no-accident" records, or to inaugurate a new campaign or program. This type of meeting serves a good purpose where there is need to inspire a group and develop enthusiasm for a cause but it is held less frequently now than in former years because we have come to appreciate that safety must be an every-day proposition and set up as a part of the job itself if it is to get results. Where these special rallies are called the occasion and purpose dictates the program and it is unnecessary to cover this phase of the subject here.

In the second class is the crew or gang safety meeting which is quite popular. These meetings are called on the job by the foreman at a time when work can be conveniently suspended and as often as necessary to accomplish the purpose of assimilating new men, preparing for a new job, discuss some specific hazard or to solve any other safety problem which may arise. These meetings usually do not last long and they are entirely informal. The foreman states the problem, asks for ideas and suggestions, and concludes with a summary of the discussion and the conclusions reached.

In the third class we have the group meeting where groups of employes in a plant or division of the same occupational classification or in allied classifications meet at regular stated intervals and follow a planned program. This is perhaps the most common type of meeting held in the oil and gas industry and because of the regularity with which the meeting date rolls around it makes the greatest demands on the imagination and ingenuity of the foreman or chairman in order to present a program that will be instructive and at the same time hold the interest of the men.

Proper Groups

The size of the group has a great deal to do with the manner in which the program is conducted. Any group from 12 up to 40 is satisfactory. Where there are less than 12 it is difficult to develop discussion and when there are more than 40 discussion becomes unwieldy.

Of importance to the success of the meeting is seating arrangements, lighting, etc. Comfortable chairs should be provided for everyone. It is expecting too much for a man to stand or remain squatted on the floor and give his undivided attention for 45 minutes or an hour. The room should be ventilated to provide adequate fresh air at a comfortable temperature and suitable lighting is essential if the meeting is held at night.

To a very large extent the success of the group meeting program depends on the chairman. In the first place it is necessary to plan the program in advance; select subjects, appoint speakers, arrange for

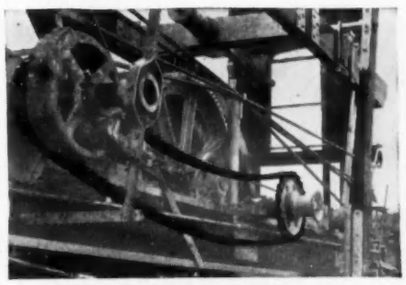
"OF COURSE I WANT LOWER COST PER FOOT OF HOLE," HE SAID

*THE REX MAN

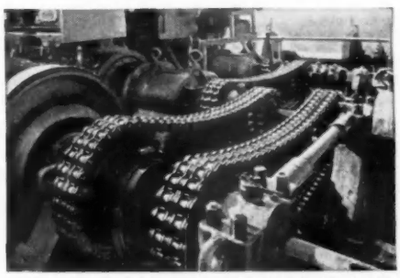
. . . AND THEN I* TOLD HIM HOW TO GET IT!

① **"YOU'RE DRILLING DEEP,"** I told this driller, "and that's where chain quality shows up most. When you get thousands of feet of drill stem down in the hole, 'sissy' chains just have to wear!

② **"REX CHAMPION IS WHAT YOU WANT!** Look at these accurately forged side bars, better-than-ordinary lubrication methods, and a force-fit assembly that is insurance against destructive rocking.



③ **"SURE, CHEAPER CHAINS** have their place. When the oil lies close to the surface, and other conditions are favorable, you can use less rugged chains. And Rex has them all, from heaviest to lightest.



④ **"AND FOR YOUR MECHANICAL RIGS,** remember that Rex roller chains can cut the cost of chain per foot of hole on 'slim hole' drilling just as effectively as Rex rotary chains do on heavier work.

⑤ **"CHANGING THE SUBJECT,** I'd like to tell you something about our new Mud Conditioner, which is a natural for removing shale, sand and cuttings faster and at low cost, with minimum maintenance."

⑥ **"I'LL LOOK INTO IT,"** he told me. "If Rex can help me get lower cost per foot of hole—and help my mud conditioning problems, too—it's worth investigating!" . . . Visit *your* Rex supply store soon!

P.S. *Investigate the Big Four of the oil fields—Rex Champion, Universal, Deepwell and Standard. Check up on Rex Roller, too, mentioned in the above imaginary conversation. Also ask for the latest news on the Rex Mud Conditioner presented in the folder above. See your Rex supply dealer or write our home office. Address, 1639 W. Bruce St., Milwaukee, Wisconsin.*

REX OIL WELL CHAINS

CHAIN BELT COMPANY OF MILWAUKEE

Baldwin-Duckworth Chain Belt Division, Springfield, Massachusetts • Worcester, Massachusetts
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50TH ANNIVERSARY 1891 REX 1941 CHAIN BELT COMPANY

demonstrations, etc. Also, it is up to him to get discussion started and get as many of the men as possible to participate. The duty of keeping the program moving, steering the discussion away from personalities or controversial subjects, and summing up the conclusions reached also falls on the chairman. Since a qualified chairman is so essential to the program, care should be used in selecting the right kind of man for the job.

The chairman, especially if he is new to the job, probably needs an "order of business" to keep him on the right track. Following is a typical outline used for this purpose:

Order of Business

1. Call to order by chairman.
2. Registration of those present or checking of attendance records.
3. Summary of minutes on previous meeting and discussion of items carried over.
4. Introduction of new employes.
5. Reading and discussion of inspection reports.
   (a) Automobile equipment.
   (b) Building and grounds.
   (c) Tools and equipment.
6. Reading and discussion of automobile and personal injury accidents reported.
7. Discussion of first-aid questions listen in Safety Information Bulletin.
8. Discussion of problems and subjects given in Safety Information Bulletin.
9. Talks by visitors or other special features.
10. Appointment of inspection committee and discussion leaders for next month's meeting.

It might be well to sound a note of caution in connection with the use of such an outline as given above. If it is used consistently without variation the meeting is likely to become stereotyped and the proceedings too formal.

The most interesting and instructive radio programs are those which are varied, which challenge our imagination and stimulate our thinking. The same may be said of safety meetings. The difference is that we only turn a dial to tune in such a radio program but we have to work to produce such a safety program.

We are told there are three methods of teaching; namely, lecture, conference or discussion, and demonstration. A knowledge of the varied uses to which these methods can be put is helpful in arranging worthwhile safety meetings. The lecture method, so some one has said, is a method whereby notes are transferred from the notebook of the professor to the notebook of the student without passing through the mind of either. This humorous definition does not give proper credit. Although the lecture method is less well suited than the other methods, especially in adult or vocational training, it does serve a useful purpose. In the hands of a competent speaker who is well versed in his subject it can be effective.

Impressive Speakers at Meetings

It is also to be remembered that the safety speech is far different from a platform lecture although the technique used in its delivery may be classed in the same category. The worker who knows his job can get up and tell an impressive story of safety based on his own and the experiences of others that has come to him through the years he has been in the business. Such a story is especially impressive to the practical field man because he cannot help but be impressed with the speaker's knowledge of the subject and his earnestness and sincerity of purpose. Workmen should be encouraged to make these safety talks. Not only do they contribute to the success of the program and influence others but it develops the speaker. In thinking about his subject he learns more about the safety of his job and speaking before a group helps to develop self confidence.

Conference discussions, panels, round tables and quizzes are considered the best devices for arousing interest and securing full participation of all the members in a group meeting. Many companies distribute a Safety Information Bulletin, or similar publication, to foremen and department heads which includes discussion outlines, case problems and questions designed for use in developing round-table or conference discussions. Following is an outline for group discussion on the subject of "defensive driving" which was taken from one company's Safety Information Bulletin. This gives an idea of how such outlines might be prepared on any one of a thousand subjects dealing with safety in the oil and gas industry.

Defensive Driving

Automobile accidents involving company vehicles have shown a 25 percent increase for the first four months of this year as compared to the same period last year, with less than 2 percent increase in vehicle miles. Of the 25 accidents reported through April 25, company drivers were wholly or partially responsible for 11. The following analysis gives the unsafe practices committed by company drivers in these eleven cases:

Unsafe Practice	Accidents
1. Driving too fast for conditions	1
2. Inattention	3
3. Cutting in or crowding	1
4. Passing standing street car	1
5. Failed to signal	1
6. Improper turning	2
7. Following other car too close	2

Although only three of the above accidents caused personal injury, at least one of them could have been extremely serious and in all 25 cases the risk of injury to employes or the public was present. The point is, if we do not exert every effort to control these accidents the law of averages will operate to produce a serious or fatal case.

Defensive driving is a comparatively new term. In effect, it means operating your vehicle in a manner that will enable you to keep out of accidents yourself and at the same time try to safeguard the reckless and indifferent driver. A discussion of the following questions should help us to a better understanding of how to drive defensively:

(a) What is meant by keeping a vehicle under control at all times?
(b) What do we mean by over driving your lights?
(c) What is the proper thing to do when you observe a vehicle approaching on your side of the road?
(d) What precautions should be observed in approaching an intersection even though you are traveling on the right-of-way street?
(e) The driver of another vehicle persists in following your car too closely and will not pass when you slow down. What would you do under these circumstances?
(f) What is the safe thing to do when the driver of the vehicle ahead makes a hand signal?
(g) What should you do if a vehicle starts to pass you on a curve?
(h) Why is it so essential to keep your eyes on the road and your mind on the job of driving at all times?
(i) What precautions can be taken to guard against running down pedestrians at night?
(j) What is the safest procedure to follow when meeting a vehicle with blinding lights?
(k) What extra driving precautions should be exercised when traveling a strange highway?

The case problems on the operations of different departments and the first aid questions shown were taken from the same bulletin:

Problems of the Month

Pipe line—What type of clothing should be worn by a hot dope crew?

Production — Outline a method of cleaning a small tank without the necessity of placing a man in it.

Drilling — Should elevators be removed before attempting to break loose stuck drill pipe?

Gasoline plant and compressor sta-

Would you like to ELIMINATE *packer troubles?*

THIS *SUPER* PACKER

IS NOW AVAILABLE

A new, tremendously tough and sturdy SUPER-packer to eradicate familiar packer troubles, is offered by GUIBERSON in our new "Type K." Note these features you've been waiting for:

1. DUAL VALVE — A metal-to-metal ground seat, plus a composition valve sleeve. Either alone will give a leak-proof seal.
2. FULL-OPENING TUBE. Double-extra-heavy wall thickness.
3. INTERNALLY REINFORCED PACKING SLEEVE—Assures complete recovery even after being subjected to pressures of 6,000 lbs. per sq. in.
4. LARGE FLUID PASSAGES, insuring rapid running in and avoidance of swabbing effect when pulling.
5. HEAVY SLIPS ON DOVETAIL TRACKS, cannot be lost in well.
6. EXTRA-STURDY ANCHORING DEVICE, with two massive 1¼" gudgeon pins.

Type KV8 has 8" valve lift. Type KV30 has 30" valve lift. Type K has no control valve. This is a new-day packer for deepest wells and severest applications. If you've had packer troubles, investigate.

TYPE "K" PACKERS

Designed to support 20,000 feet of 2½" tubing and to withstand pressures of 10,000 lbs. per sq. in.

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Representatives in every important oil field in the United States. BRANCH OFFICES: Houston, Texas; Tulsa, Okla.; Newark, Ohio. WAREHOUSES: Seminole, Okla.; Kilgore, Alice, Texas; New Iberia, La. Distributors: W. R. Guiberson Co., Los Angeles, Calif. Eastern States: L. C. Wigton, Olney, Ill.
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tion—How often should fire extinguishers be inspected and what constitutes proper inspection?

Home—How can accidents caused by stepping in and out of wet bath tubs be avoided?

First Aid Questions

How should sterile gauze and picric-acid gauze be handled in applying to wounds and burns?

How many types of slings are used in first aid, and what are they called?

What is a tourniquet?

Name some materials that may be used in making an improvised tourniquet?

What materials should not be used in making an improvised tourniquet?

Accident-Prevention Information, a monthly publication distributed by the Department of Accident Prevention, American Petroleum Institute, carries a wealth of information and material suitable for safety meeting discussions. A discussion outline on some timely subject such as good housekeeping, hand and finger protection, and accidents from falls is usually featured. The reports of serious and unusual accidents and studies of special hazards and problems also provide a wealth of subject material.

The A. P. I. has also developed a rather complete list of safe practice manuals dealing with such subjects as "Cleaning Petroleum Storage Tanks," "Handling and Laying Pipe," "Safety in Rotary Drilling Operations" and many others which carry safe practice suggestions for the various jobs performed in each operation. Any one of these manuals will supply enough material for several safety meetings.

Information on A. P. I. Safety Publications may be obtained by writing H. N. Blakeslee, Department of Accident Prevention, American Petroleum Institute, 50 West 50th Street, New York, N. Y.

Safety Subject Material

Publications of the National Safety Council which carry suitable safety-meeting subject material are too numerous to give a complete list. To name a few: National Safety News, Safe Worker, Safe Driver, Speaking for Safety, Public Safety, Safe Practice Pamphlets, and Safety Instruction cards. Additional information on these and other publications available through the council can be obtained by writing National Safety Council, 20 N. Wacker Drive, Chicago, Illinois.

A recent report gives an account of a group safety meeting that had difficulty in adjourning. A production group originated the idea of a "safety quiz" based on the old fashioned spelling bee. Two leaders chose sides and lined up with their respective groups on either side of the room. The chairman asked the questions and when a man missed he had to sit down. The list of questions was exhausted with some members on both sides remaining on their feet so the game was called on account of time and lack of questions. The competition was fun and everyone present learned something about safety that he did not know before. Here are some of the questions taken from the list:

What shade welding lens should be worn on acetylene cutting and welding work?

Two cars approach an intersection at the same time. Neither street is a "stop" street. Which car has the right-of-way?

What are the symptoms of sunstroke?

What is the explosive range of natural gas?

What three elements are necessary to combustion?

The demonstration or visual method of teaching is effective because approximately 85 percent of the impressions we receive come through the eye. Visual impressions also seem to be retained longer and the ability to gain and hold the audience's attention by demonstrations or other visual methods is proved by the movies and the magicians.

Visual Aids in Teaching Safety

Visual aids in planning safety meeting programs may be classed in two groups; moving pictures and slides, and demonstrations by use of drawings, equipment, and methods. The National Safety Council has developed a series of sound slide films that are suitable for showing before most any industrial group. These can be rented from the council with projection equipment or copies of the films can be purchased at nominal cost. Some companies make their own sound slide films and often times reproduce accidents or near accidents. This is effective because it shows operations, equipment and often men with whom the majority of employes are familiar and also enables concentration on a particular type or kind of accident which is occurring with frequent regularity.

Moving pictures are more expensive and less flexible than the sound slide film. However, there are many good safety films available from the National Safety Council and several of the large life insurance companies. Films, movie or slide, are not advisable as a steady diet, but as an occasional dish they are invaluable for stimulating interest in the safety program.

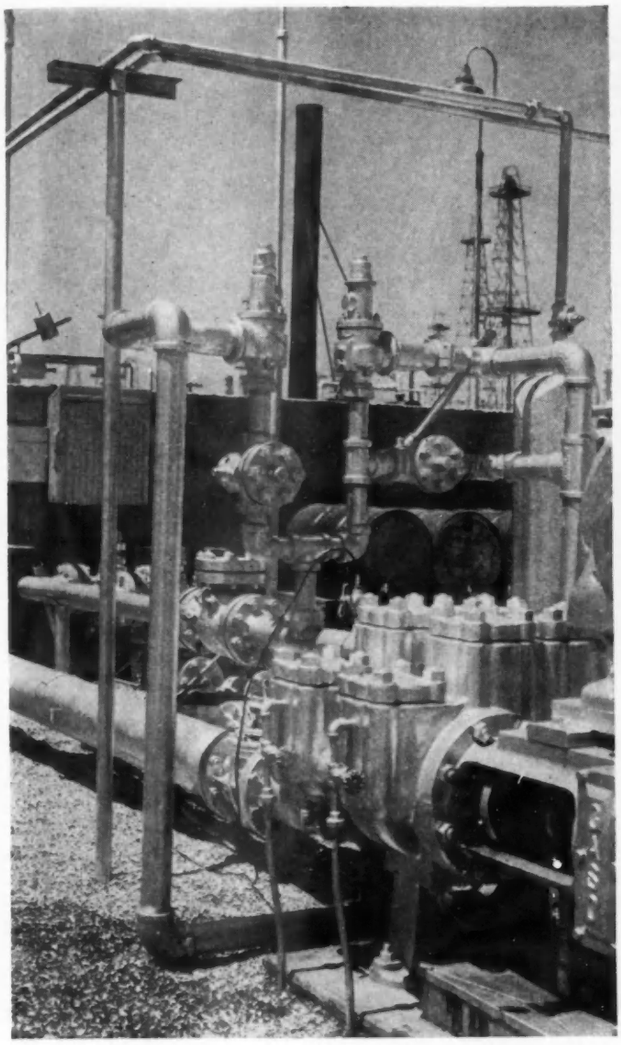
No safety meeting place should be without its black board. It is without equal for illustrating the circumstances of automobile accidents. By showing street and highway intersections and the position and direction of travel of vehicles involved, the cause can be readily pointed out. The black board can also be used to illustrate many types of personal injury accidents. For example, the arrangement of piping, tie-ins and valves which figure in an accident may be effectively illustrated.

Demonstrations by use of actual equipment used on the job is one of the most effective teaching methods. To prove this, attempt to explain to a group how to lubricate a plug valve then bring a plug valve before the group and show how it is done. This example can be multiplied many itmes. It is rather difficult to tell how to adjust and properly fit a pair of goggles or a hose mask face piece, but it is no trick at all to show how it is done.

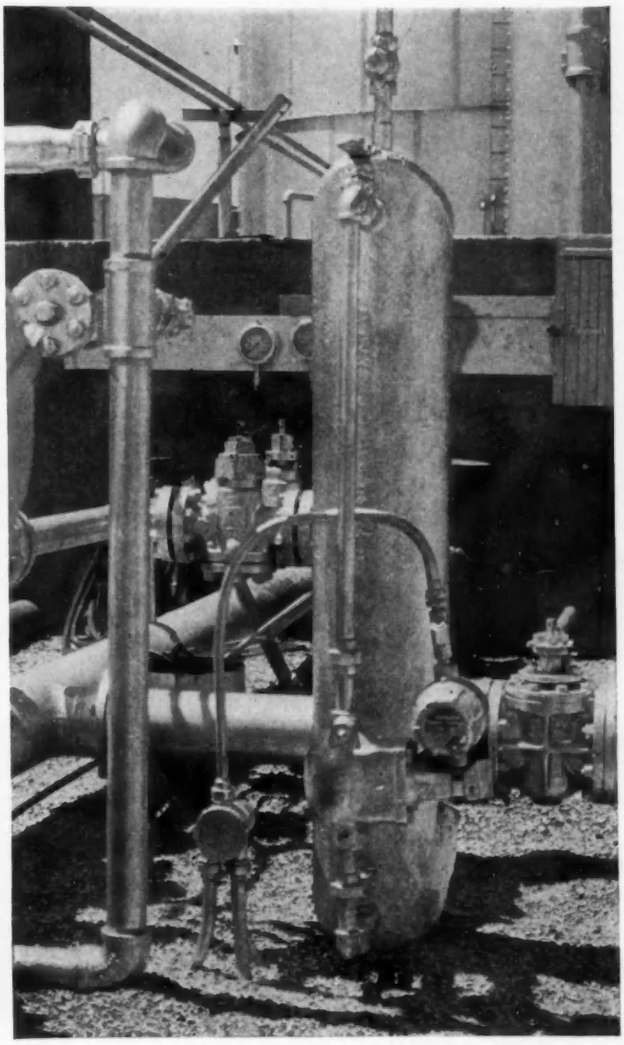
The most impressive way to teach a man how to lift properly is to show him the position to take and the manner of straightening up with the load. That means demonstrating methods of work and this example too may be multipled many times. To name a few: How to use a fire extinguisher; how to properly fit a wrench on a nut, the proper angle for placing an upright ladder, the correct position to stand in using an axe, the proper clearance between men in using a pick and shovel, and the right way to use a screw driver.

When we consider the many sources on which we may draw for safety-meeting subject material and the many devices which can be utilized to get the group to participate in the program, the task of maintaining interest in safety meetings appears less difficult. It is only a matter of thought, planning and work, and the resulting benefits will more than justify the time and effort required.

Safety meetings have become increasingly important in this period of emergency. In the past there has been adequate incentive to prevent accidents for the sake of the worker and his family and for the good of operations. Today there is another reason equally as important —the defense of our country and our American way of life.



Relief valve hook-up on high- low-pressure pumping out lines from automatic pump setting, Long Beach Oil Development Company. Valves are set for pressure of individual lines.



Volume chamber and float compartment on level control unit. Float-controlled mercury switch cuts operating current when predetermined level is reached in tank being emptied.

Automatic Hook-up Speeds Delivery to Pipe Line

TRANSFER of oil from lease storage tanks to the pipe line, when effected without the use of intermediate storage at the pipe line tank farm, requires high-capacity pumps and accurate handling if the proper amount of oil be moved and if the line be protected against possible damage through the lease pumps breaking suction and thus introducing air into the main line.

At Long Beach, California, harbor, on city-owned beach and tidal properties, Long Beach Oil Development Company has built stations at all its tank farms which comply fully with all pipe-line requirements for direct pumping, and which require but a minimum of personal attendance or supervision during pumping.

The pumps are set at one end of the tank site, outside the fire wall, individually mounted on concrete bases, and surrounded with crushed stone drainage areas. All pump units are of the same size and capacity, and are equipped with identical fittings so as to be completely interchangeable. The pumps are double-acting, duplex-piston type, driven through self-contained gear-reduction units by individual

Insulating flange on the pump discharge line, completely enclosed with protective housing to forestall possible grounding.

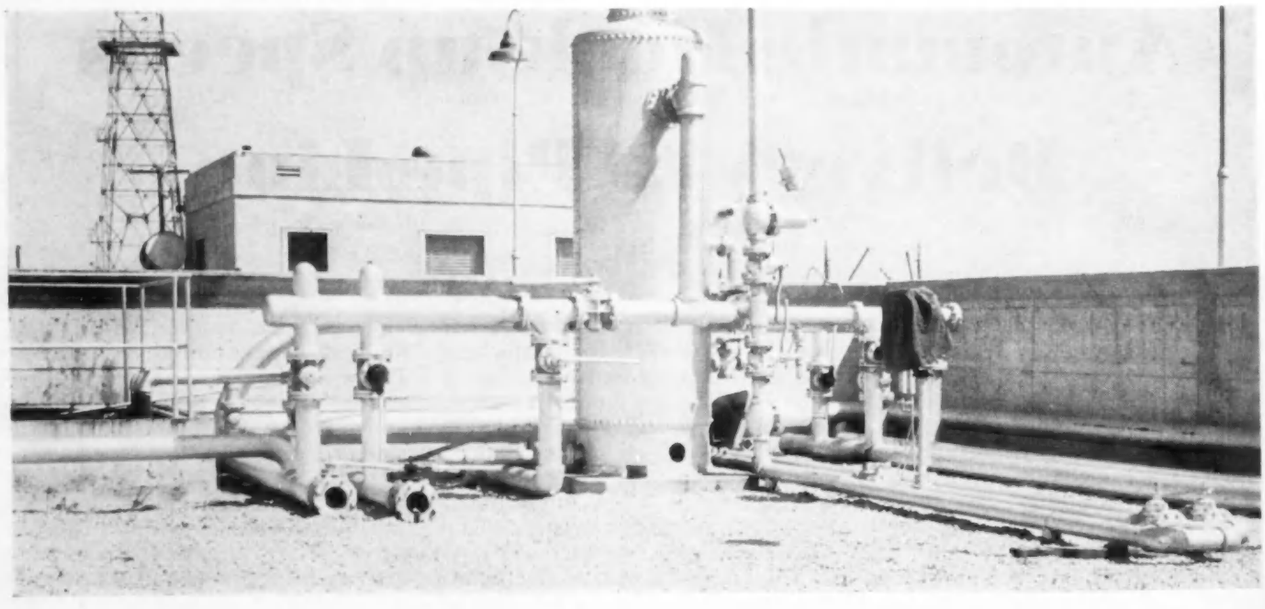
electric motors mounted on the gear housing.

The customary setting includes three identical units, with the center unit serving as stand-by, ready to be cut in to replace either of the end pumps in case of trouble or power failure. Suction lines lead directly to the pump from the manifold inside the fire wall, with grooved flange joints on all lines. Since the design of this unit requires delivery to either of two trunk pipe lines, the discharge lines are tied in to a manifold with lock-type plug valves, permitting seals to be attached by gaugers or pumpers to insure delivery to the proper line.

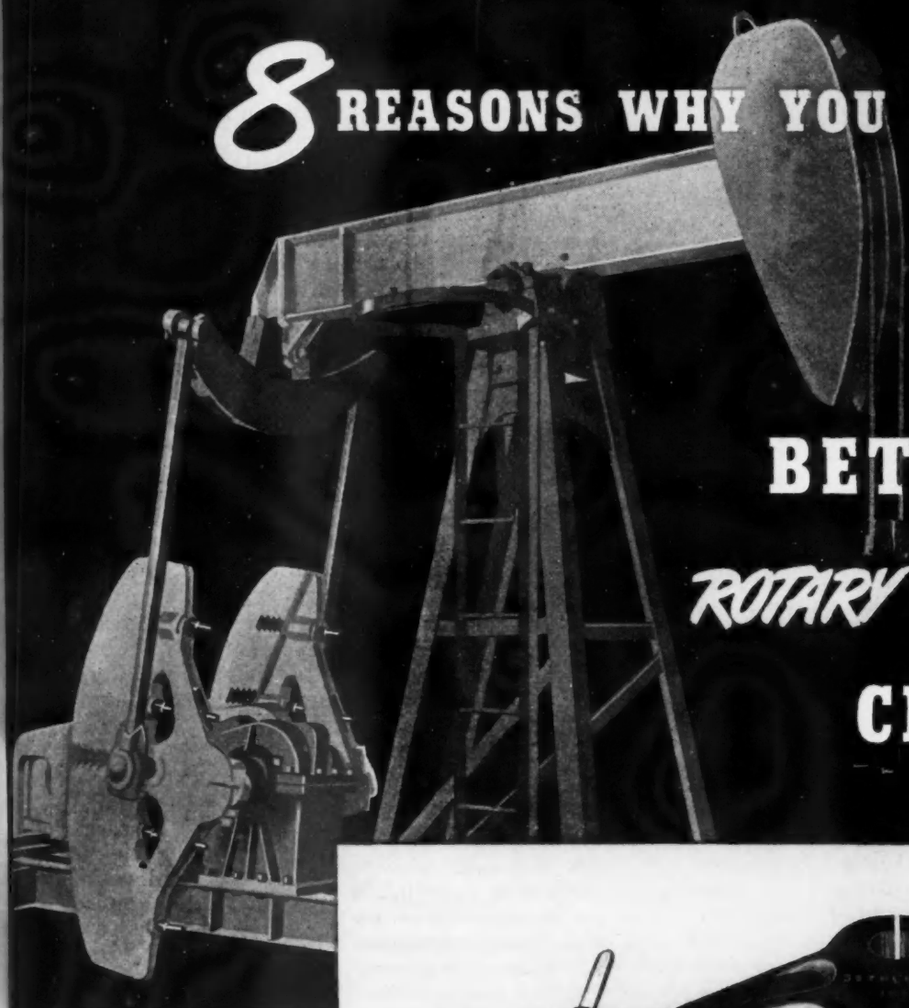
As pressures vary from one pipe line to the other, relief valves in pairs are attached between the suction and discharge, one on each side. When the high-pressure line is being delivered a tank of oil, the proper manifold is opened so that, if a gate should be shut against delivery, the high-pressure relief valve will protect the system by venting back into the suction. When the low-pressure line is being served, the opposite manifold is opened and functions likewise. Each pipe line is furnished with a double-locking plug valve which the respective gaugers seal in closed or open position as may be required.

Separate float and volume chambers are placed at the suction near the intake of the pump on all three pumps. These function only when the tank being pumped out is lowered to the predetermined level. The volume chamber is a vertical section of 10-inch pipe with an equalizing, or vent line at the top connected back to the tank to prevent gas lock. At the base of this volume chamber is an electrically equipped float case with remote

Emergency separator, within tank battery fire walls, provided with manifold cut in to permit use in place of any well unit.



8 REASONS WHY YOU PROFIT WITH



BETHLEHEM *ROTARY COUNTERBALANCE* CRANKS

Bethlehem Rotary Counterbalance Cranks give you the greatest possible safety and pumping efficiency because:

1—Filler weights come in small increments for quick, easy handling and close adjustment.

2—Vee-type cranks are adjustable for lag and lead, so you can operate with minimum power.

3—You buy only the amount of filler weights actually needed. No waste investment in ineffective, excess weight.

4—No power wasted in rotating unused portion of weight.

5—No unused weight to add unnecessary loads to bearing and shafts.

6—Standardization of filler weights into two sizes for use on all sizes of units permits minimum stocks and maximum interchangeability among your pumping units.

7—Weights are bolted and triple-locked. No slippage.

8—Weights are changed by hand with the prime mover shut down—no power needed.

You profit with each of these Bethlehem features, too

No welds at critically-stressed sections.

Rubber-mounted connection of walking-beam to provide protection from well shocks on smaller units.

Built-in true alignment of entire unit without the use of shims.

Forged-steel, heat-treated gears and pinions.

Double-cone adjustable equalizer bearing.

All power transmitted to pitmans through straight and tapered roller bearings.

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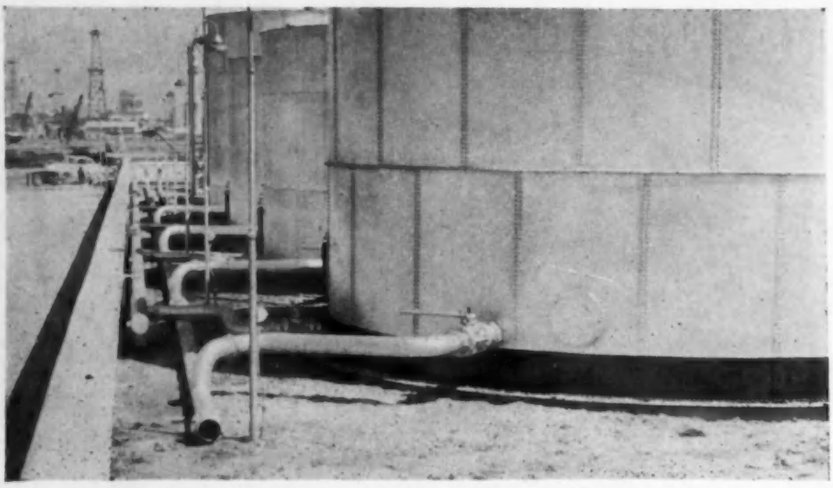
Offices or Stores—*Illinois:* Grayville, Salem, St. Elmo; *Kansas:* Chase, Great Bend, Russell, Witchita; *Louisiana:* Houma, Lake Charles, New Iberia, Shreveport; *New Mexico:* Artesia, Hobbs; *Oklahoma:* Fittstown, Oklahoma City, Seminole, Tulsa, Wewoka; *Texas:* Alice, Borger, Corpus Christi, Dallas, Freer, Ft. Worth, Houston, Kemp City, Kilgore, La Ward, Midland, Odessa, Pampa, Wichita Falls.



One side of double tank battery, showing concrete fire wall, complete delivery and suction manifolds, and provisions for minimizing expansion and vibration stresses.

control for operating the main connection to the motor in operation. So long as oil is flowing from the tank through the suction manifold to the pump with a head above the predetermined level, the switch is inoperative and the motor continues to operate the pipe-line pump. When the tank level reaches the bottom gauge, the float in the case drops to break the circuit at the mercury switch so the pump is shut down instantly. It is only necessary then for the lease man to close the connecting valves on the suction to the empty tank to make the station ready to deliver another tank of oil to the pipe line.

Each well flowing to the tank farm is normally equipped with individual separator, but to provide for uninterrupted flow in case of failure of any unit, a stand-by separator is maintained within the fire walls, with manifold connections permitting it to be tied in to any desired well and flow thus continued pending repairs or replacement of the faulty unit at the well.

To guard against possible line or tank corrosion through the units serving as electrode to dissipate electrical energy originating or being transmitted through the pipe line to which the station is delivering, an insulating flange is incorporated on the discharge tie-in. All units within the fire walls, as well as the wells on the lease, are thus isolated from stray currents, and corrosion limited to that derived from local sources.

The stock tanks receiving the lease flow are arranged in double rows, back to back, and are set on a crushed-rock foundation retained with a steel ring two feet larger in diameter than the tank base. All connections in the tanks are made above the bottom, with clean-out manholes located on the quarter toward the alley extending between the two rows of tanks.

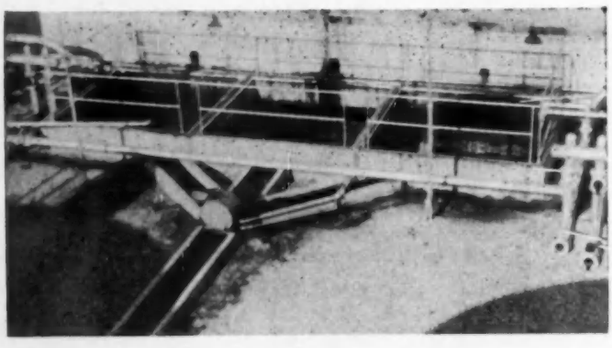
In the space between the tanks is a concrete flume, sloped to provide rapid flow toward the sump system. Into this central ditch short branch flumes, each of which comes half way up the clean-out opening, connect the individual tanks.

At one end of the lot is a three-compartment sump into which tanks are drained during cleaning operations, the three pits providing for classification of the waste matter for more effective removal and proper utilization of the refuse. Branches in the main flume adjacent to the end of the main lease ditch permit diversion of the waste into any desired pit.

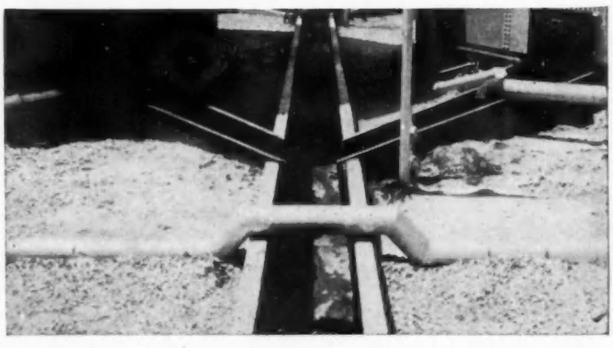
Evacuation of the sump pits through the concrete wall surrounding the lease battery is effected through ports or openings cored through the wall during construction, the holes being fitted with plugs for sealing except when the aperture is used to permit the insertion of the suction hose to the pumping unit on the truck used to haul away the refuse.

The entire sump unit is protected by a fence, permitting inspection of the refuse handling, but preventing accidental injury through possible fall into one of the sumps.

The entire tank battery is surrounded by a concrete fire wall, amply high and extensive to care for all oil stored within the tanks in case of fire or break, and with removable stairs at locking gates to provide access to the tanks for gauging or maintenance. All pipe handling oil to and from the tanks is located in equal, paired manifolds extending along the concrete wall and just within the enclosure. Lines handling clean oil are painted with aluminum throughout; while those used for dirty oil, waste and salt water are protected with aluminum paint on the straight runs, but all fittings, valves and plugs are painted red. By means of this differentiation, it is not necessary to trace a line past its nearest fitting to determine whether it carries clean or dirty fluids, and to plan any maintenance operations accordingly.



Three-compartment sump permits the classification of waste and individual withdrawal by suction pump on disposal truck.



Concrete and steel flumes connect tank clean-out hatches with central flume for drainage of waste to the sump system.

Economic Selection of

Oil Field Equipment

PART 4

Horsepower Required by the Prime Mover

By EMORY N. KEMLER
Associate Professor, School of Mechanical Engineering, Purdue University

PREVIOUS articles of this series (June 2, June 9, and June 16) have concerned themselves with determining how the performance of the reservoir will affect the fluid-producing capacity of a given well or of the fluid which might be expected from a given well for the producing history of that well. Before setting up any general relations for determining the economic size of equipment to install it is necessary to have available data on equipment requirements under various operating conditions.

The horsepower requirements of a given well will be determined by the distance the fluid must be pumped in the case where the well does not make any gas. Inasmuch as the effect of gas on loads and horsepower requirements is quite involved the following discussion will be limited to the case of lifting of a dead fluid.

If P be the producing bottom-hole pressure, the fluid height can be calculated from

$$h = \frac{2.31\,P}{S} \quad \ldots\ldots (1)$$

where

P = Producing B.H.P. in 16/in.^{2}
P_r = Reservoir static or closed in B.H.P.
S = Specific Gravity.
l = Well depth or depth to formation face in feet.
D = Depth to fluid surface in feet.
h = Feet of fluid in the hole.
c = Productivity Index Factor.
Q = Production rate in barrels per day.

Then

$$D = l - \frac{2.31\,P}{S} \quad \ldots\ldots (2)$$

also

$$Q = c\,(P_r - P) \quad \ldots\ldots (3)$$

or

$$P = P_r - \left(\frac{Q}{c}\right) \quad \ldots\ldots (4)$$

so that

$$D = l - \frac{2.31}{S}\left[P_r - \left(\frac{Q}{c}\right)\right] \quad \ldots\ldots (5)$$

For a 3300-foot well having a reservoir static pressure of 1000 psi and producing oil having a specific gravity of 0.85, equation 5 would reduce to

$$D = 3300 - 2.72\left[1000 - \left(\frac{Q}{c}\right)\right] = 580 + 2.72\left(\frac{Q}{c}\right) \quad \ldots\ldots (6)$$

If then the productivity index factor and production rates be known, the lift can be calculated for any given well. Figure 1 shows the lift for a 3300-foot well for several values of c and at various production rates.

An analysis of equation 5 shows that the depth to fluid can be divided into two general parts. The first part being the depth to fluid when the well is not producing and the second part being the amount the fluid level is reduced as a result of producing at a given rate. Figures 2 and 3 have been drawn to make these calculations. The charts have been divided into two parts. The lower part giving the distance to fluid when the well is not producing and the upper part showing the number of feet the fluid level is reduced at any given production rate, the depth to fluid being the sum of these two values. For example in Figure 2 (for oil) the solution is shown for a 3000-foot well having a static bottom-hole pressure of 800 pounds per square inch and a productivity index factor of 1.5 when the well is producing at the rate of 1000 barrels per day. The lower part of the chart shows that the fluid level is 730 feet from the surface when the well is not producing. This is found by tracing down from 3000 feet (found on the heavy "O" line) to a static bottom-hole pressure of 800 pounds per square inch and then across to the left where the depth of 730 feet is read on the scale. The reduction in fluid level as a result of producing at a rate of 1000 barrels per day can be found by tracing up from the production-rate scale as shown to the c = 1.5 line and then to the left where the reduction in fluid level of 1900 feet is read. The distance from the surface to the fluid level, or the depth to fluid will be the sum of these two values or 730 + 1900 = 2630 feet. This then is the net distance fluid must be raised by the pump. Figure 3 gives the same data except that it

has been drawn for fresh water having a specific gravity of 1.00.

When the net lift has been determined the theoretical horsepower requirements can be found by multiplying the weight of fluid lifted by the distance it must be pumped. The distance the pump must raise it can be found from Figures 2 or 3. The horsepower required can be calculated using the chart shown in Figure 4. The formula used in constructing this chart is

$$HP = \frac{350\ Q\ S\ D}{33000 \times 24 \times 60}$$

$$HP = .0000073\ S\ Q\ D$$

Where

S = specific gravity
Q = Barrels per day (42 gal.)
D = Net lift in feet.

Using the data as obtained from Figure 2 for the example assumed above, the theoretical horsepower to handle the 1000 barrels per day of fluid having a specific gravity of 0.85 from a depth of 2630 feet is found to be 16.5.

The theoretical horsepower requirements for pumping equipment are in general lower than would be normally expected. The overall efficiency of the pumping system being in many cases very low. The efficiency of the modern pumping units of all types is probably very high and the efficiency from the reduction unit to the polished rod for well designed equipment would be expected to be over 90 percent. The largest loss will therefore result from sucker rod friction, fluid friction and pump friction. Of these the sucker rod friction is undoubtedly the largest factor

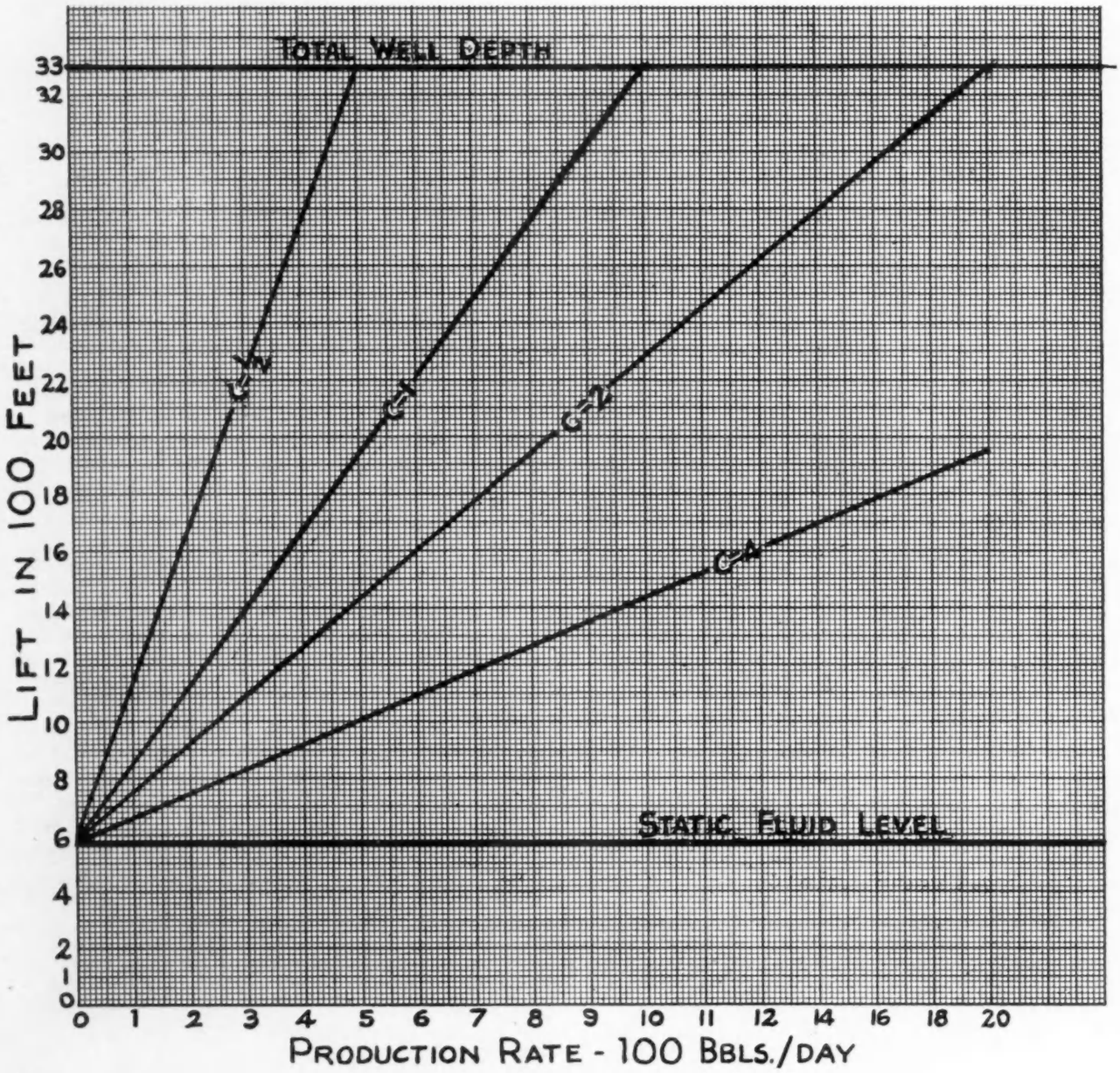

TOTAL WELL DEPTH
STATIC FLUID LEVEL
C-4
C-2
C-1
C-½
LIFT IN 100 FEET
PRODUCTION RATE - 100 BBLS./DAY
0 1 2 3 4 5 6 7 8 9 10 11 12 14 16 18 20
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 33

FIGURE 1

The lift for a 3300-foot well of several productivity index factors and at various production rates.

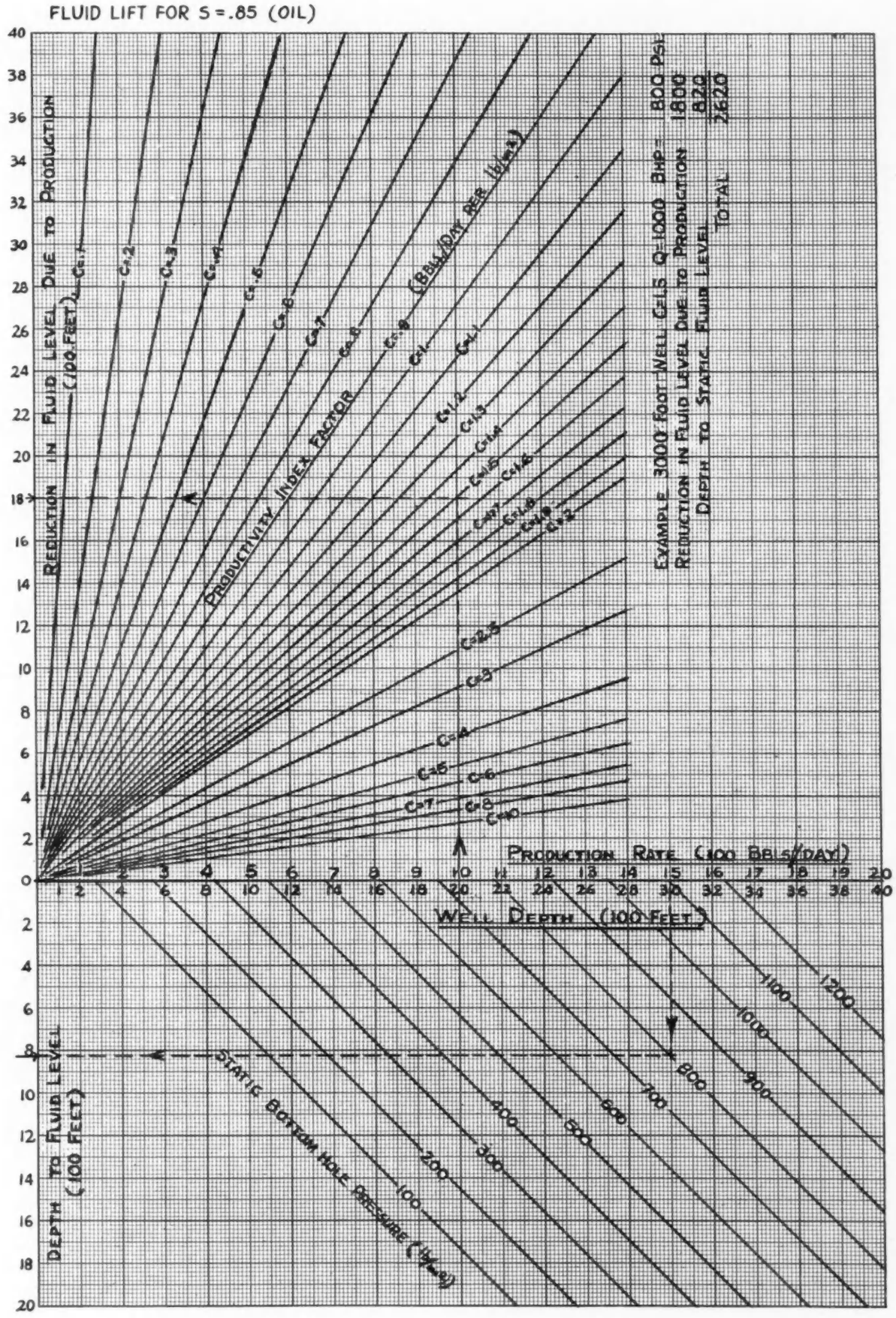

FLUID LIFT FOR S=.85 (OIL)
REDUCTION IN FLUID LEVEL DUE TO PRODUCTION (100 FEET)
PRODUCTIVITY INDEX FACTOR (BBLS/DAY PER 100 PSI)
EXAMPLE 3000 FOOT WELL C=1.5 Q=1000 BHP= 800 PSI
REDUCTION IN FLUID LEVEL DUE TO PRODUCTION 1800'
DEPTH TO STATIC FLUID LEVEL 820'
TOTAL 2620'
PRODUCTION RATE (100 BBLS/DAY)
WELL DEPTH (100 FEET)
DEPTH TO FLUID LEVEL (100 FEET)
STATIC BOTTOM HOLE PRESSURE (LBS/SQ IN)

FIGURE 2

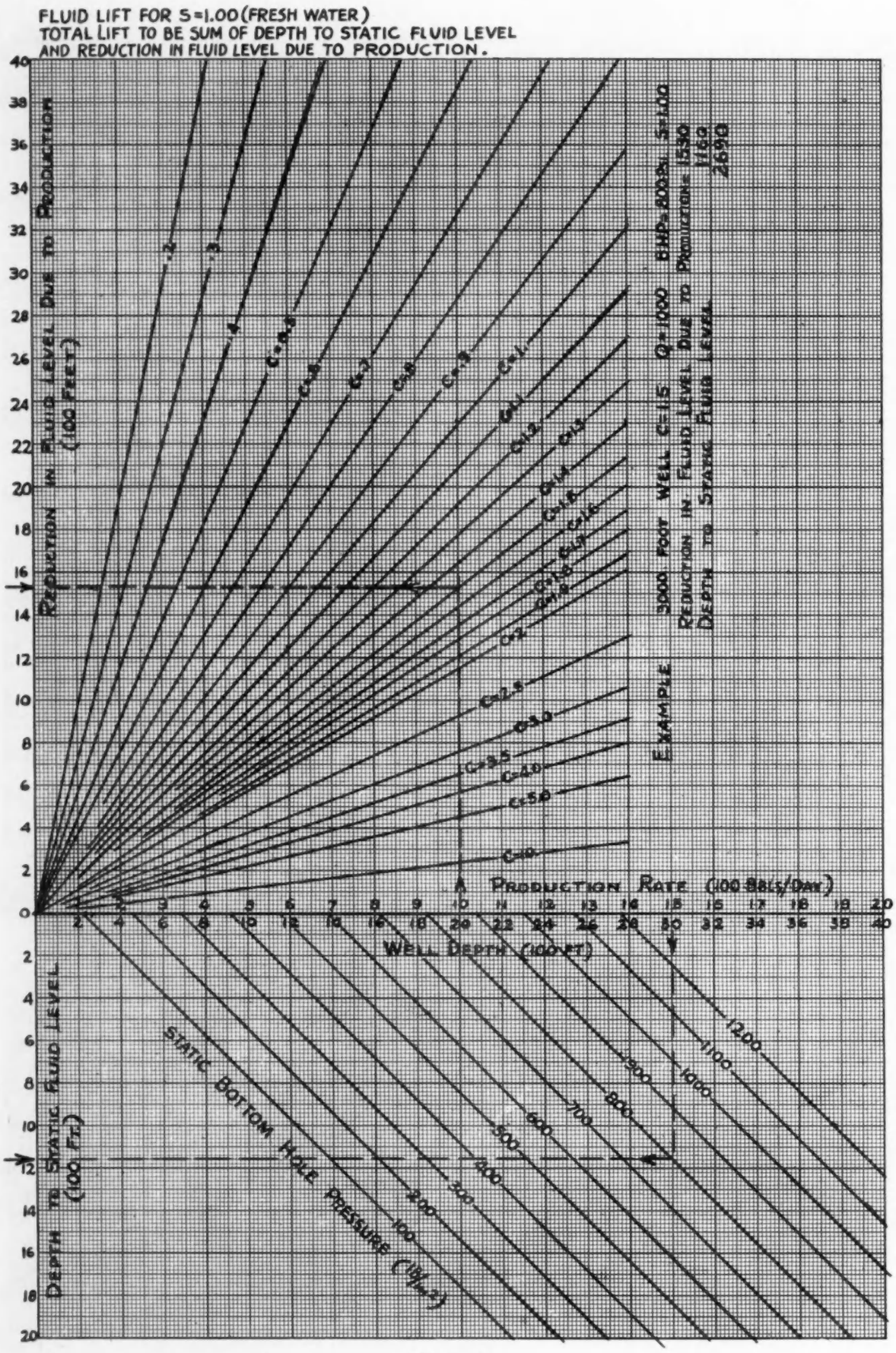

FLUID LIFT FOR S=1.00 (FRESH WATER)
TOTAL LIFT TO BE SUM OF DEPTH TO STATIC FLUID LEVEL
AND REDUCTION IN FLUID LEVEL DUE TO PRODUCTION.
REDUCTION IN FLUID LEVEL DUE TO PRODUCTION (100 FEET)
DEPTH TO STATIC FLUID LEVEL (100 FEET)
WELL DEPTH (100 FT.)
PRODUCTION RATE (100 BBLS/DAY)
STATIC BOTTOM HOLE PRESSURE (LBS/IN²)
EXAMPLE
3000 FOOT WELL C=1.5 Q=1000 BHP=800# S=1.00
REDUCTION IN FLUID LEVEL DUE TO PRODUCTION= 1530
DEPTH TO STATIC FLUID LEVEL 1160
2690

FIGURE 3

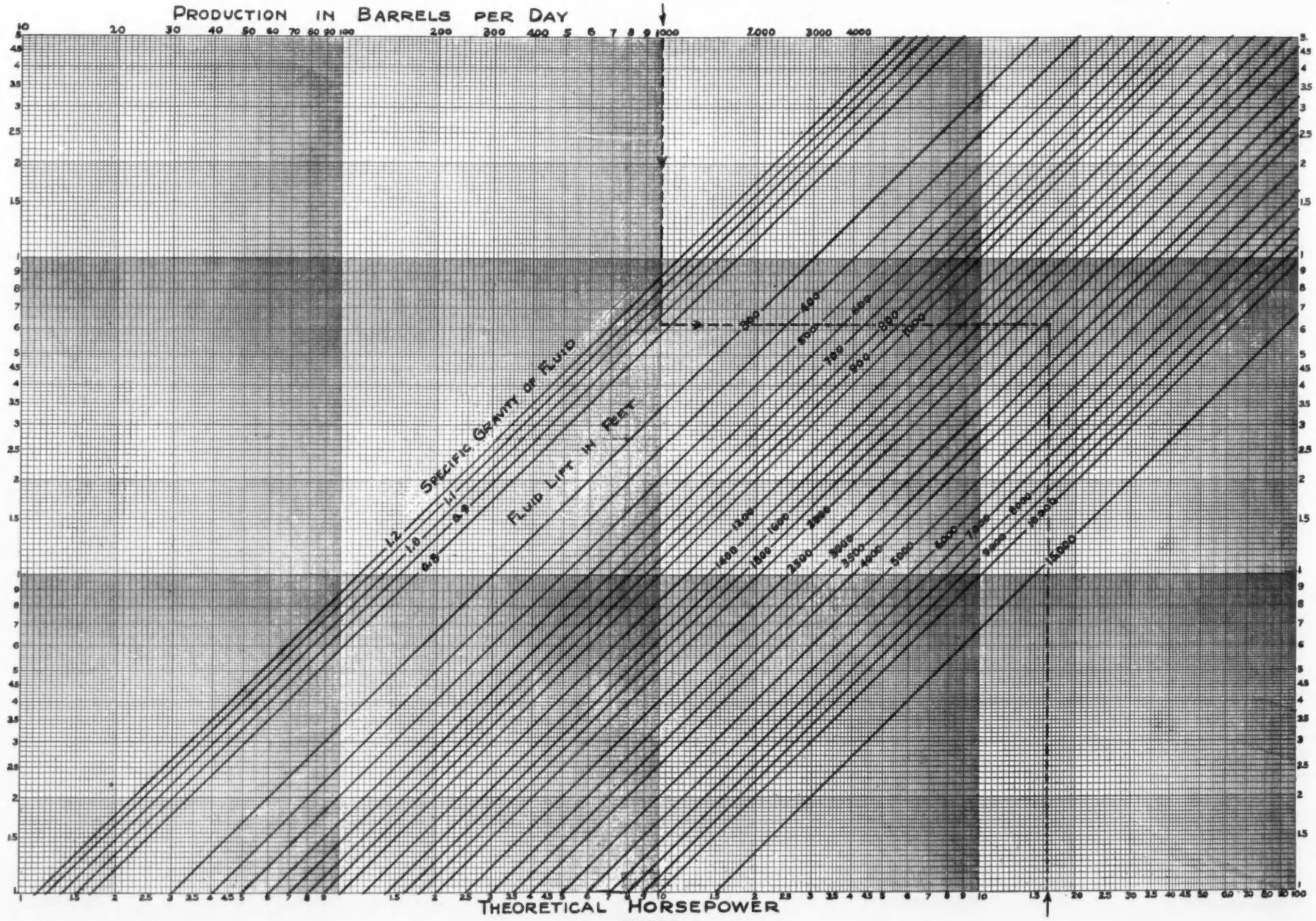

PRODUCTION IN BARRELS PER DAY
SPECIFIC GRAVITY OF FLUID
FLUID LIFT IN FEET
THEORETICAL HORSEPOWER

FIGURE 4

and is, of course, subject to little, if any control except in extreme conditions.

The lift efficiency (ratio of hydraulic horsepower to polished-rod horsepower) to be expected from sucker-rod type of pumping equipment is quite variable. Even under the best of operating conditions where producing considerable quantities of fluid it is doubtful if this efficiency can safely be taken as greater than 50 percent. Figure 5 shows data from carefully taken series of tests where all factors were accurately measured. The test points shown with circles are on 3000- to 3300-foot wells and these with solid dots represent tests on 4000- to 4500-foot wells. There are so many factors involved in such data but all that will be considered here is the overall or reasonable safe values. Tables 1 and 2 list the data plotted in Figure 5 and also gives the well numbers from which these data were taken so that more detailed information can be obtained if desired (see A.P.I. Proceedings, 1940—"Typical Dynamometer Cards," by Eugene Hosford and Emory N. Kemler).

A study of the data plotted in Figure 5 shows

TABLE 1

Data on Pumping Tests—Wells 3000-3300 Feet Deep

Well No.	Prod.	Volume Efficiency	Net Lift	Polished Rod Horse Power	Hydraulic Horse Power	Lift Efficiency
84....	985	84	1900	30.8	14.0	48
85....	139	17	1700	8.6	1.4	16.5
86....	612	57	2750	17.4	12.4	72
87....	331	47	3200	9.5	7.8	80
88....	824	72	3200	25.5	18.6	73
90....	856	76	1675	20.7	10.8	50
91....	641	57	1630	14.8	7.7	52
92....	863	100	640	10.2	3.2	32
93....	851	77	1700	16.7	8.5	52
95....	1146	116	590	15.0	4.0	27
96....	575	90	3000	14.2	11.2	75
97....	991	76	3200	32.4	19.5	61
98....	666	56	3200	33.6	12.8	38
99....	1463	103	2000	26.1	20.6	80
100....	1144	110	1500	19.7	13.4	70
101....	739	88	800	10.2	4.2	42
101....	830	86	800	15.4	5.0	32
102....	150	55	3300	3.6	2.9	80
105....	1440	144	140	7.1	1.2	17
107....	1300	120	200	11.0	1.5	14
113....	673	54	3050	29.8	14.5	49
130....	1440	96	290	18.8	2.5	14
131....	1089	102	640	9.8	4.1	42
132....	1093	97	590	11.3	3.8	34
133....	788	72	370	14.2	2.0	14
134....	821	77	730	11.2	4.0	37
135....	934	87	3120	26.5	17.2	66
136....	553	117	325	8.5	2.1	25
137....	638	65	760	13.6	2.8	21
138....	925	63	1800	17.3	8.2	47
198....	929	82	543	12.3	3.2	27
199....	958	88	376	9.1	2.2	24
200....	995	93	447	11.6	3.0	27
203....	1051	90	1481	17.8	10.3	58
204....	1048	97	794	10.2	5.0	50
205....	1107	101	135	11.0	0.9	8
206....	976	86	487	17.4	3.4	19
207....	1035	69	3100	27.0	18.9	68
208....	1041	96	275	15.4	1.8	12
209....	1044	94	2200	23.6	14.9	64

TABLE 2

Data on Pumping Tests—4000-4600 Feet Deep

Well No.	Prod.	Volume Efficiency	Net Lift	Polished Rod Horse Power	Hydraulic Horse Power	Lift Efficiency
239....	552	80	4100	36.0	16.3	42
239....	495	106	4100	21.1	14.7	72
241....	572	97	3900	35.9	16.5	40
242....	277	62	4000	45.8	17.0	38
245....	452	79	3950	28.7	13.4	47
246....	33	33	4100	2.7	1.0	37
247....	107	30	4585	9.5	3.4	36
248....	3	17	4550	4.0	0.6	15
249....	108	30	4550	11.7	2.8	25
250....	574	82	4000	33.3	17.1	49
251....	14	30	3929	6.1	0.4	7
252....	317	68	4185	19.3	9.9	51
253....	375	64	4150	22.8	11.6	49
254....	1112	94	2275	35.1	19.0	55
255....	852	77	2200	36.3	14.0	39
256....	7	22	3872	1.5	1.0	67
262....	75	44	4200	4.7	2.3	48
266....	177	58	4100	8.4	4.3	47
267....	105	40	4135	4.9	2.8	57
268....	608	68	3830	31.1	19.0	60
269....	511	79	4000	33.7	15.3	47
270....	454	76	2180	37.1	14.1	38
273....	150	44	4450	9.3	4.9	52
282....	213	63	3800	12.1	6.1	50
288....	536	80	3129	24.4	12.4	37
433....	368	100	3100	16.9	8.5	51

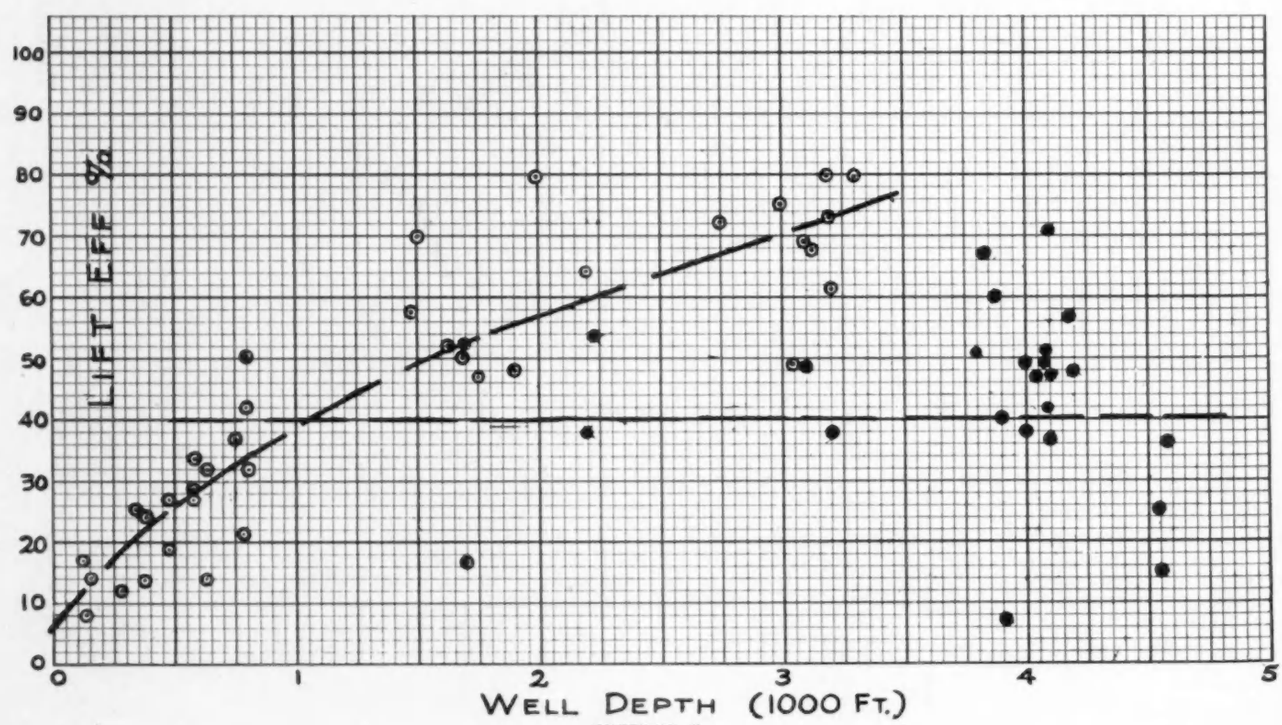


FIGURE 5

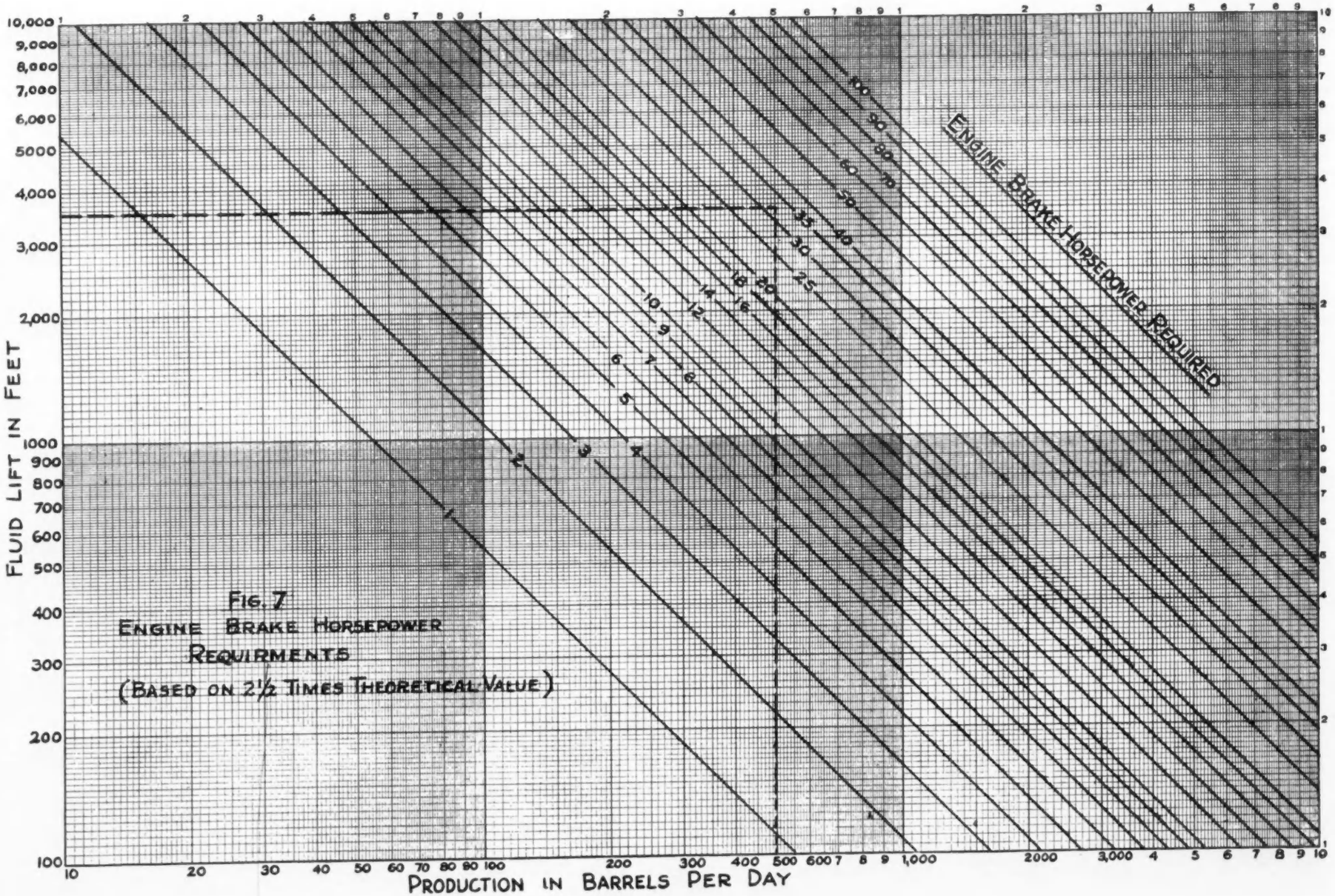
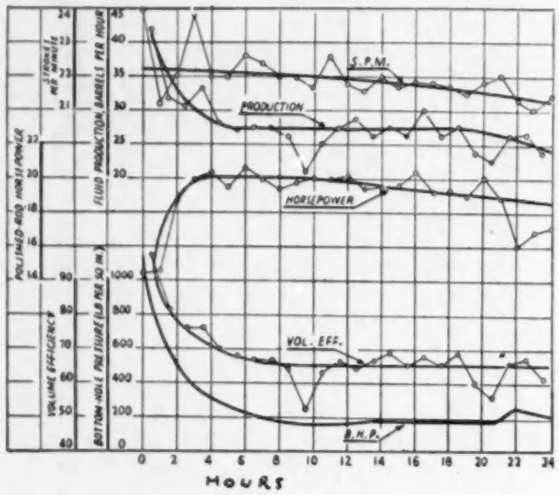

FLUID LIFT IN FEET
10,000
9,000
8,000
7,000
6,000
5000
4,000
3,000
2,000
1000
900
800
700
600
500
400
300
200
100
PRODUCTION IN BARRELS PER DAY
10
20
30
40
50
60
70
80
90
100
200
300
400
500
600
7
8
9
1,000
2000
3,000
4
5
6
7
8
9
10
ENGINE BRAKE HORSEPOWER REQUIRED
FIG. 7
ENGINE BRAKE HORSEPOWER
REQUIRMENTS
(BASED ON 2½ TIMES THEORETICAL VALUE)

FIGURE 7

very clearly the reduction of efficiency as the lift, for a given depth well, is decreased. This is what would normally be expected since the sucker-rod friction will be dependent on well depth and since the hydraulic horsepower depends on lift. Very little data are available at the lesser lifts for the 4000- to 4500-foot wells so that no general curve might be drawn for this condition. The data shown do, however, indicate that the lift efficiency will decrease with depth for a given lift.



* Vol. Eff = volume efficiency
B H P = brake horsepower

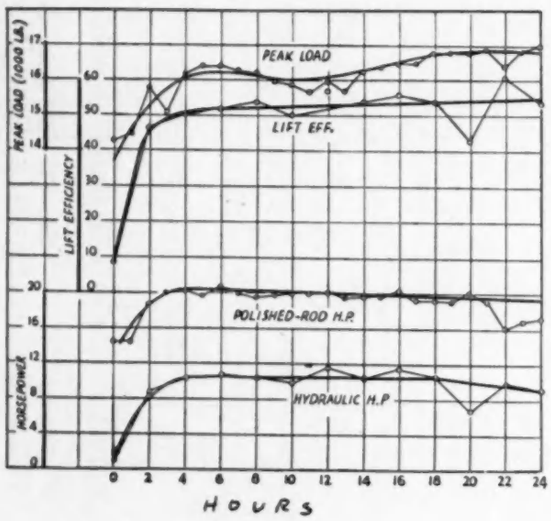


FIGURE 6
Pumping test on a 3300-foot well.

Figure 6 shows a chart of efficiency against lift for a very carefully taken series of tests on a single well. When operating under the best of conditions this well shows a lift efficiency of 61 percent when producing from near bottom. Complete data on this test are shown in A.P.I. Proceedings for 1938, page 192.

A study of the data available indicates that for normal lift, 50 percent lift efficiency would not be an unreasonable value. For extreme cases this value will be too high and for the best operating conditions it will be too low. To this must be applied an efficiency factor for the pumping unit proper and for the transmission system. As an overall even number it would, therefore, appear that an overall efficiency of 40 percent to be applied to the hydraulic horsepower would be reasonable. For shallower wells with reasonable lift this value may be low even for the average case and for deep wells it may not be conservative enough.

Figure 7 has been drawn to give a quick method of determining the engine brake horsepower for the average case where the overall efficiency is assumed at 40 percent of the hydraulic horsepower. To find the engine brake horsepower from this chart trace up from the desired production on the lower scale and across from the lift scale on the right-hand side. At the intersection of these two values read the brake horsepower required.

In the case where a well makes gas with the oil, the calculation of the required horsepower is quite difficult. In the case of a pumping well it is assumed that the free gas will be separated from the oil by the gas anchor so that the only energy supplied by the gas will come from that gas which comes out of solution after the oil gets in the tubing string. Formulas can be derived to give the theoretical amount of work which can be obtained from gas coming out of solution. (See "A Preliminary Investigation of Flowing Wells," by Poole and Kemler, A.P.I. Proceedings, 1937.) The application of such formulas is, however, very difficult because the gas energy is normally used very inefficiently in the tubing string. Even when used at efficiencies of the order of 10 to 15 percent it will supply a considerable amount of energy for lifting purposes.

The next article, Number 5, in this series, will discuss "Torque and Load Requirements for Given Production."

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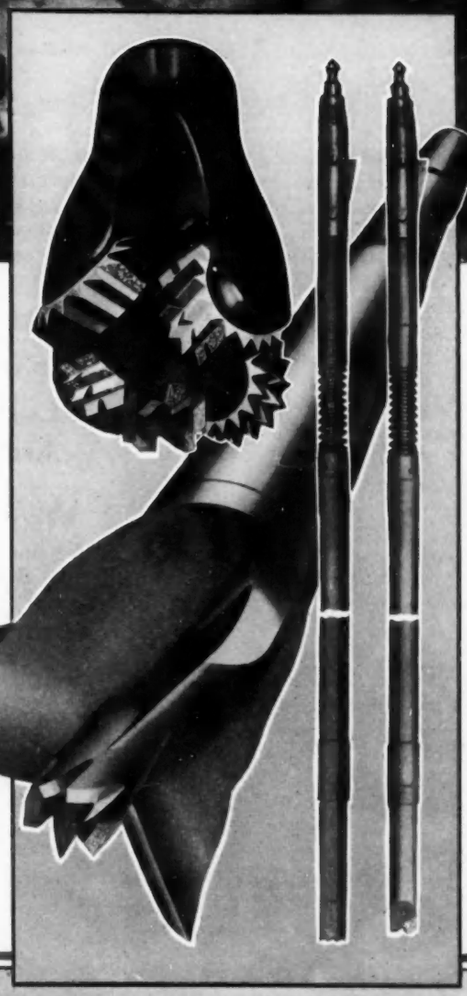

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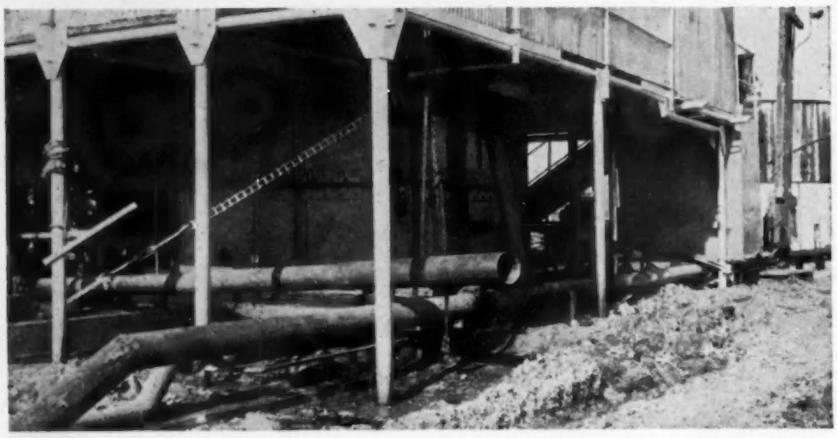
Practical Operating Hints for

THE practical operating hints for the drilling rig and production man, appearing in these features each week, are secured from oil fields everywhere and offer suggestions that will help to improve field efficiency and safety. The items give an excellent picture of the remarkable ingenuity being exercised by the operating divisions of the industry. Contributions to these features will be paid for at the rate of $5 for each illustrated item accepted. Address contributions to "The Editor, THE OIL WEEKLY, Houston."

1. MUD STORAGE

Storage for 45-Barrel Emergency Supply Provided by Cellar Around Well Casing



Cellar space around casing of this well is used as an emergency mud storage pit.

IN MANY fields it quite often is very convenient or even necessary to have a small emergency mud storage pit near the derrick to store mud of a certain special weight or viscosity.

Instead of building a special pit out near the regular mud pit, one company makes good use of the cellar space around the casing of the well. The capacity of the particular type of cellar used by this company is about 45 barrels, and being concrete lined, presents an ideal place in which to store mud relatively free from contamination by other muds, rain water or foreign objects. Since trucks hauling the ready-mixed mud from the mud-mixing plant have an average capacity of around 43 barrels, a single load usually fills the cellar to capacity.

The truck load of mud is emptied into the cellar by employing a length of 8-inch pipe that extends from the cellar to the roadway beside the derrick. The outer end of this pipe is suspended from a rope loop so that it can be swung about in any direction for convenience in unloading the truck. This outer end is placed at a point high enough that the mud will run into the cellar by gravity.

A mud intake line is placed in the cellar so that any amount of the mud may be taken up and circulated in the hole on a very short notice. A high-pressure water line opening in to the cellar provides a means of stirring up the mixture occasionally so that the mud is in usable condition at all times. By installing a corrugated iron covering over the cellar, drippings and wash-down fluids from the derrick floor may be prevented from falling into the cellar to pollute the mud.

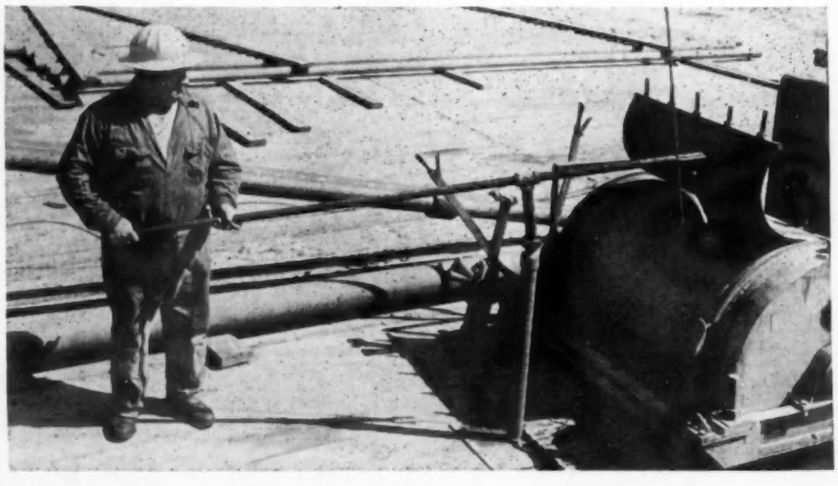
2. SAFETY

Long-Handled Tool Aids Wire Spooling

WHEN coming out of hole with the sand line, it usually is necessary that a man help guide the line as it is being spooled on the reel to make sure the line will be spooled evenly, and thus assure longer life for the line.

To provide for the safety of the man standing behind the reel guiding the line into the proper place with the aid of a pole or crow bar, the foreman of one company devised a safer and more easily handled control level. It consists of a 6-foot length of 1-inch pipe that swings on a pivot made from an automotive universal joint, and on the reel end of which a double prong had been welded, the latter being wide enough to engage the sand line. The opposite end of the pipe is handled by the operator from a safe distance in front of the reel.

The swivel, standing approximately three feet above the floor, is mounted on a length of 2-inch pipe welded to a steel plate, and which



This tool makes it possible to evenly spool sand line without danger to the worker.

in turn is lag-screwed to the floor. By installing a 1¼-inch tee on the top of the standard, the 1-inch pipe is able to slide through it, permitting better control of the line and allowing the pipe to be pulled out when it is not in use or when the assembly is to be moved. The guide prong is made of a looped section of sucker-rod material.

Aside from the safety factor of this type of control, its position, in contrast to the former method of standing back of the spool shield, allows the operator at all times to see the line, giving him better control of spooling.

3. MATERIALS HANDLING

Light Bulbs Protected By Convenient Box

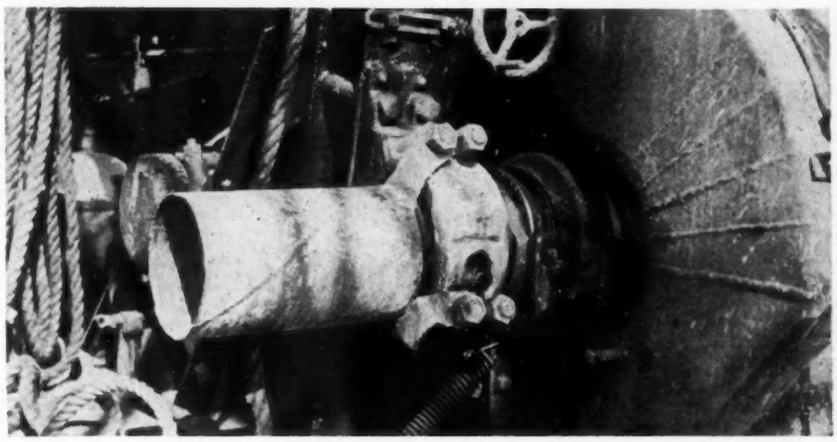
THE problem of storing and safely moving a dozen or more light bulbs each time a rig is torn down from a newly completed well, was solved in a novel but practical manner by one Mid-Continent drilling contractor.

A sturdy wooden box, 18 x 32 inches by 10 inches high, was built, and provided with a ½-inch strip or moulding nailed to the inside walls six inches from the top. A piece of belting cut to the same rectangular dimensions then was ruled off in 5-inch intervals, working from a common center line, after which 18 round holes, each the diameter of the neck of the bulbs being used, were cut through the heavy material. Several narrow strips of wood tacked to the bottom side of the belting provided stiffness to the shelf as it rested on the side moulding in the box. A hinged cover fitted with a hasp was fitted to the top of the box.

The bulbs are placed in this rack neck downward. When all are in place, a piece of sufficiently thick quilting or other soft material is placed over the bulbs so that a snug fit will be had when the cover is closed. Stored in this manner, the bulbs are able to stand comparatively hard shocks as the slightly resilient belting cushions the bulbs from the blows.

4. GADGETS

Casing Section Encloses Exposed End of Shaft, Providing Seat for Driller



Casing enclosing exposed end of draw-works shaft serves as a seat for the driller.

IN enclosing the exposed end of the main shaft of the drawworks, one drilling contractor used a piece of casing of large enough diameter to serve at the same time as a seat for the driller, conveniently located near the throttle and other controls.

An 18-inch length of 12-inch casing was fitted with steel strap ears for bolting to the bearing cap on that side of the drawworks.

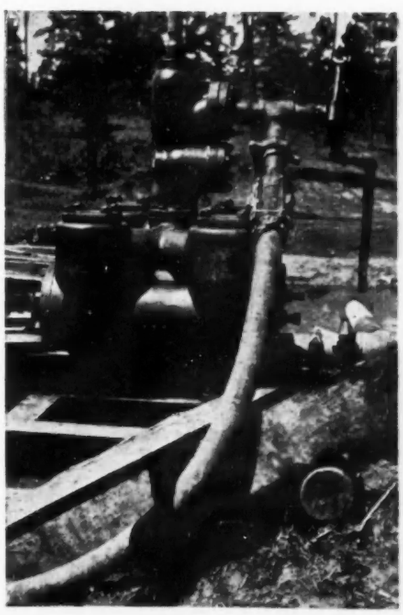
5. RIGGING UP

Hose on Mud Pump Reduces Vibration

ONE operator in the East Texas field uses a short section of rotary hose to connect his mud pump to the first joint of the mud line to reduce the effect of vibration. The hose ties in directly with the pump, and is connected to it by a union.

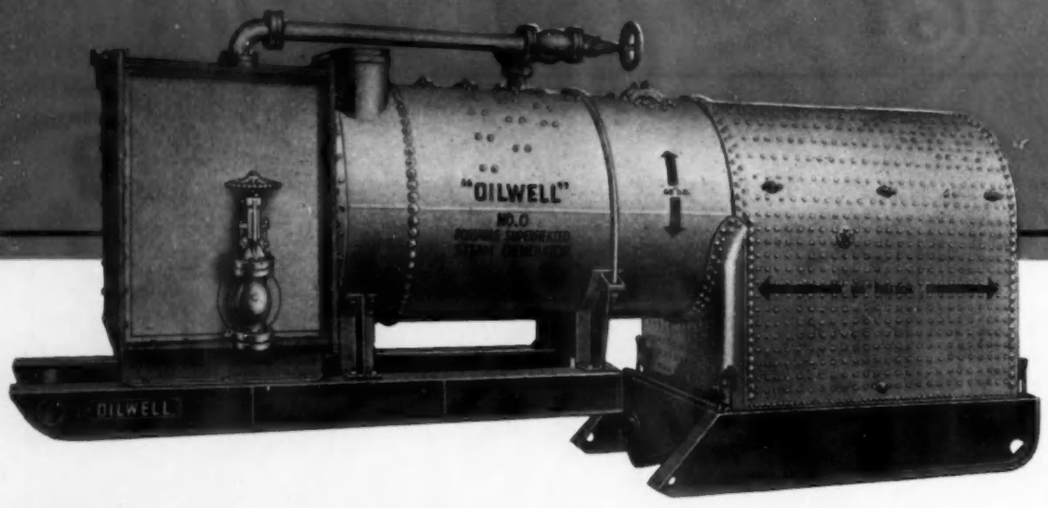
The rubber section is 20 feet long, and joins the steel portion of the mud line at a convenient distance from the pump. The hose gives a flexibility that absorbs vibrations, preventing them from reaching the rigid steel line with consequent wear on it and its connections. As the pump is mounted on skids and is not rigidly anchored in position, the rubber hose allows shifting while in operation without applying strain to the standpipe or connections.

The flexible joint also facilitates rigging up by simplifying spacing, making unnecessary procurment of exact lengths of pipe for fitting up the lines.



A short section of rotary hose connects mud pump to line, reducing vibration.

HOW TO DRILL DEEP A



"OILWELL" No. 0 Portable Superheated Steam Generator

For peak capacity and maximum efficiency, high-pressure *superheated* steam should be delivered to the engines and pumps. Superheating the steam greatly reduces the amount of water evaporated in relation to boiler horsepower output; steam at 350 lbs. per sq. in. pressure *superheated* to 625° F. has 31% greater volume per pound of water evaporated than saturated steam at the same pressure. The recommended continuous operating load of the "Oilwell" No. 0 Steam Generator (uninsulated) is 13,000 lbs. of 60° F. water per hour superheated to 625° F. at 350 lbs. per sq. in. gauge pressure = 500 boiler horsepower (1 boiler horsepower = 33,479 B.T.U.). Intermittent peak load capacity is considerably higher. Other advantages include: (1) high steaming capacity per sq. ft. of heating surface and per lb. wt.; (2) high efficiency over a wide range of steaming rates; (3) ease of transportation —light weight and small bulk in relation to capacity.

IMPROVED "OILWELL" Feedwater Heater-Pump Unit

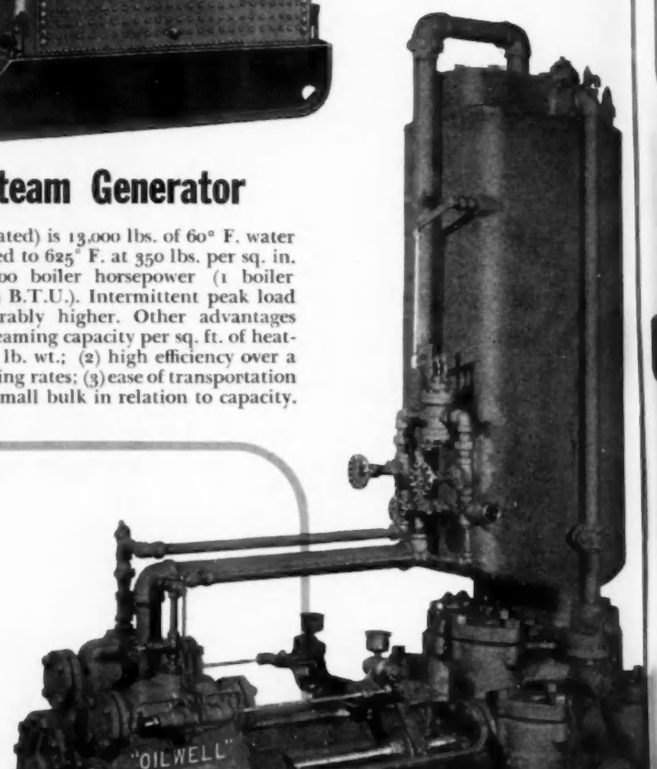
The Improved "Oilwell" Feedwater Heater-Pump Unit reduces boiler upkeep and saves fuel by purifying the feedwater and preheating it to about 210° F. It saves up to 15% in raw feedwater consumption by condensing exhaust steam. Three major improvements make this unit a smooth-running, highly efficient and reliable steam-plant auxiliary:

(1) The feedwater is sprayed through the exhaust steam, preheating the water and condensing the steam, in a 110-gallon capacity heater chamber—more than five times the capacity of the original chamber. The float operating the pump governor valve is located in a protected auxiliary section of the chamber. This construction combined with the large cross-sectional area of the heater chamber results in the pumps running uniformly and smoothly. A six-foot head of water in the chamber prevents hot water from flashing into steam on the suction stroke of the hot-water pump piston. Precipitates are trapped off where they can readily be blown out of the chamber.

(2) Dimensional changes in the pilot valves and main steam valves contribute to the smooth and efficient operation of the pumps at speeds ranging from 60 r.p.m. to only one revolution in three minutes. The pumps will not stall even with very wet steam.

(3) Rearrangement of the piping provides an ample flow of steam for all speed and pressure requirements. The hot-water pump withdraws preheated feedwater from the chamber just as fast as discharge from the cold-water pump and condensate are added.

These improvements can easily be applied to "Oilwell" Feedwater Heater-Pump Units now in service. Write for details.



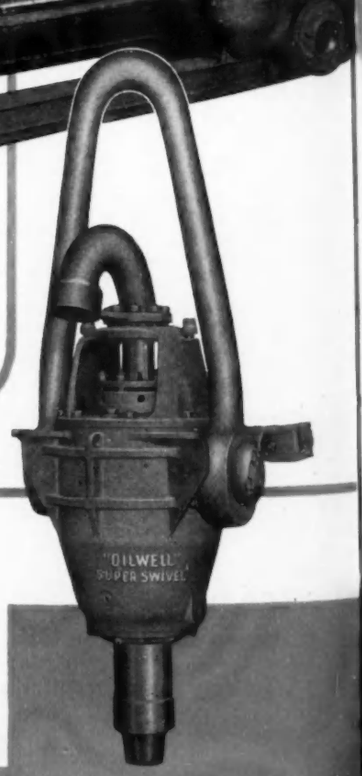
"OILWELL" SUPER SWIVEL

Many record-breaking deep wells, including the deepest in the world (15,004 feet), have been drilled with "Oilwell" No. 150 series Swivels. The new "Oilwell" Super Swivel is of the same reliable construction with several refinements, including a 4-inch streamlined fluid passage. The swivel is of much greater capacity, providing an extra factor of safety for the highest speeds and heaviest loads.

The wash pipe is armored inside and out with DI-HARD, having a hardness well above 600 Brinell and a very low coefficient of friction. DI-HARD greatly extends the life of the wash pipe and its lubricated, self-sealing packing.

Dead-load capacity ..... 400 tons
Maximum recommended drilling depths with 4½"-18 ℔ drill pipe:

100 r.p.m.	*17,000 feet*
200 r.p.m.	*14,000 feet*
400 r.p.m.	*11,000 feet*



AT LOWEST COST . . .

"OILWELL'S" deep-well drilling equipment holds many records for speed, reliability and low operating expense

In drilling many of the world's deepest wells and establishing enviable records for drilling speed, "Oilwell" equipment has demonstrated its ability to overcome extreme conditions with a wide margin of safety. Of utmost importance also, is the consistent economy resulting from the low operating cost of "Oilwell" equipped rigs. The items shown here comprise only a small part of "Oilwell's" complete line. Requests for specifications are welcomed—there is no obligation. Write to any of the addresses shown below.

"OILWELL" 21-inch Super-Speed Rotary

Designed for and tested at 1000 r.p.m. table speeds and recommended for drilling to 17,000-ft. depths, the "Oilwell" Super-Speed Rotary offers several outstanding features, including: (1) positive forced-feed lubrication; (2) fully heat-treated, spiral-bevel gearing with the pinion given an additional surface hardening; (3) 2.61:1 gear ratio; (4) self-centering, angle-contact, high-speed main bearing with large-diameter, precision balls and through-hardened and ground, high-carbon, high-chrome steel races; (5) 300-ton supportable dead load capacity.

"Oilwell" No. 20 Steam Slush Pump

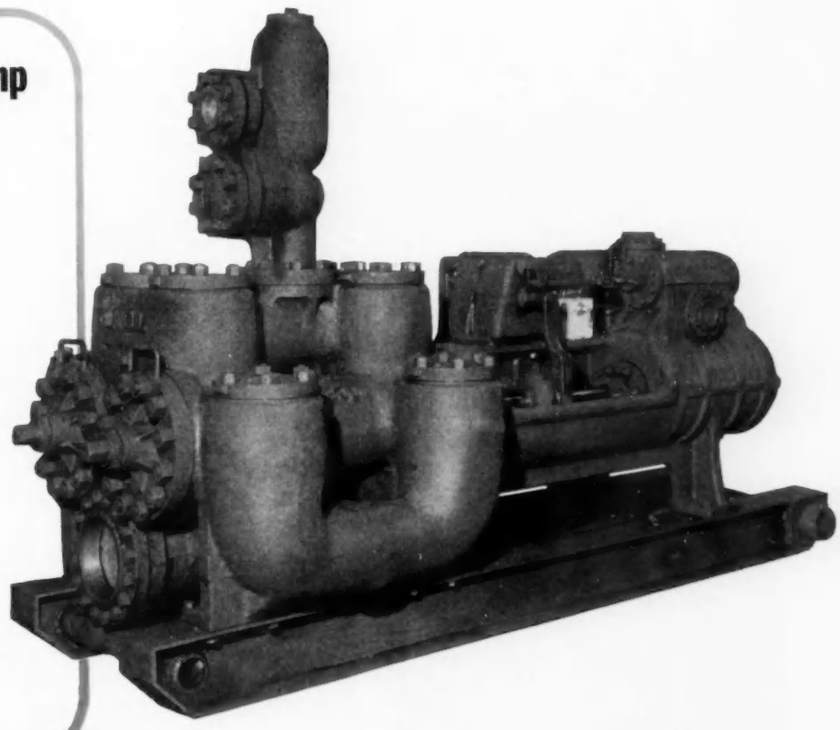
with New Heavy-Duty Parts

Constructed in accordance with time-proved design principles, the "Oilwell" No. 20 (16¼" x 7¾" x 20") Steam Slush Pump has repeatedly demonstrated its efficiency and dependability in drilling wells to extreme depths. The addition of new heavy-duty parts—fully interchangeable with older designs—now makes this pump even more efficient and dependable.

★*Roller-Bearing Valve Gear*—all bearing points are equipped with grease-lubricated, needle-type roller bearings. The lubricant is sealed in and foreign matter is prevented from entering. This improvement reduces wear, increases the life of valve-gear parts, and maintains maximum steam economy and full-stroke operation over a long period of time.

★*Type "HD" Roller-Bearing Liner Spacers*—adjusted externally by means of a single, large-diameter screw with a heavy-duty roller thrust bearing to facilitate free turning. The spacer body contacts the entire face of the liner collar, holding the liner securely in place against the highest working pressures.

★*Improved Type "C" Streamlined Valves and Seats*—both the valve and seat are heat-treated, one-piece, alloy-steel, drop forgings. Light weight and streamlined design extend wear-life and provide maximum fluid passage with minimum flow-restriction. Flexible, upper and lower valve-guide bushings greatly reduce wear on guides and stems.



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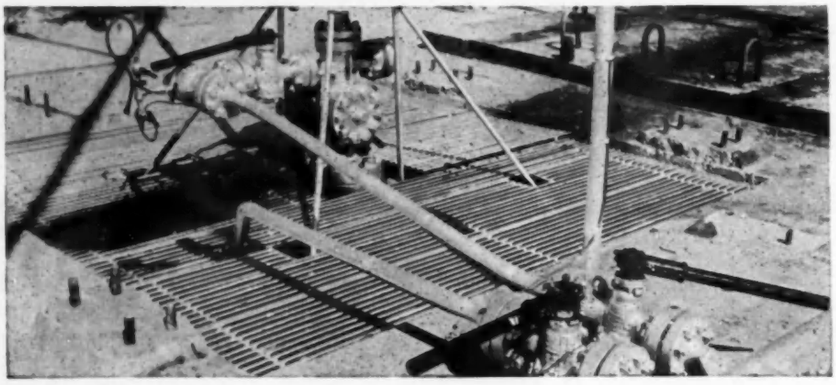
Branch Stores serving all Oil Fields
United States Steel Corporation Subsidiary

DIVISION OFFICES —
OIL CITY, PENNA. DALLAS, TEXAS
LOS ANGELES, CALIF.

Practical Operating Hints for

1. GOOD HOUSEKEEPING

Sucker-Rod Material Employed for Floor Covering Cellar of Flowing Well



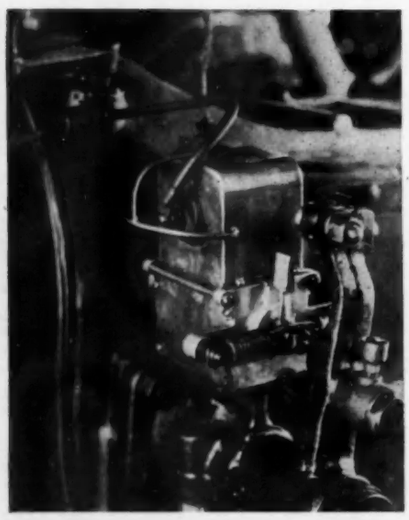
Sucker-rod material was used for the floor covering the cellar of this flowing well.

NEATNESS and practicability are combined in a sucker-rod flooring covering the cellar of each flowing well owned by a California operating company.

Sucker-rod material was cut in proper lengths, evenly spaced along shorter transverse sections of rod and then welded together. Depending upon the nature of the fittings, lead lines and tie-down bracing used on the well head fittings, the sucker-rod gratings were made up into sections of from eight to 12 rods each, making it possible to gain access to any cellar fitting without having to disturb any of the other parts of the flooring.

Smaller cut-out openings were left in the flooring to accommodate lead lines and tie-down rods that extended from the cellar to the surface.

Use of this open-type flooring makes it possible to readily check and read the pressure gauges often placed on the exposed heads of the outer strings of casing. Regular cellar inspection is made easier, and the grating allows the pumper to keep a daily check of cellar fluid level, having it pumped out before the level reaches the point of overflowing and creating a fire hazard.



A rod welded to the body of this magneto protects fiber contact for spark plug.

2. EQUIPMENT CARE

Guard on Magneto to Protect Contact

ONE of the larger items of expense commonly included in maintenance costs of slow-speed single-cylinder engines used on pumping wells is afforded by the magneto. One company found that as they were brought into shops for repairs, overhauling or exchange, the small fiber plug or contact to which the engine spark plug is connected, quite often was cracked or broken while being carried in the company car. Since oil or moisture working into the magneto through the small cracks soon shorted out part of the circuit, the magneto was shortly returned to be repaired.

A company mechanic solved the problem by welding two lengths of brass rod to the body of each magneto, forming a guard that surrounded the plugs. Following installation of this type of guard on all magnetos used on pumping engines in that district, the magnetos lasted considerably longer and resulted in a definite decrease in engine service costs for each well.

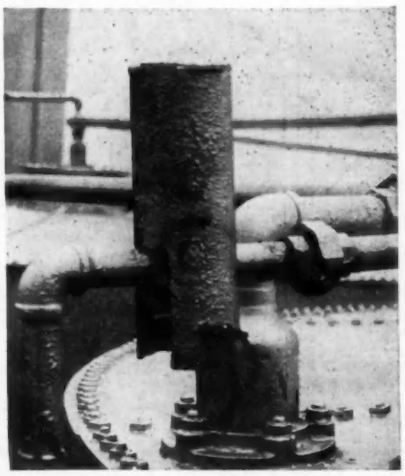
3. GADGETS

Pipe Shield Prevents Valve Tampering

TO PREVENT meddling with a gas line valve delicately set to regulate flow, one operator made a housing of large line pipe to completely encompass the valve, locking it in place to make it impossible to tamper with or change the the size of valve opening.

The device is made of a 10-inch section of pipe with a round lid welded over the top. Two opposed broad slots about three inches deep are cut in the bottom to allow the housing to fit over the entire valve, slipping freely over the gas line.

Two small horizontal slits are cut on opposite sides 90° from the bottom slots to permit entrance of a narrow steel strip, or dart, one end being oversize to allow it to



This pipe serves as housing to prevent meddling with delicately set flow valve.

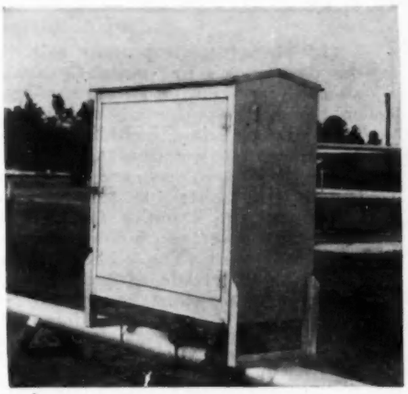
be run through only in one direction, with the large end serving as stop. In the smaller end is drilled a hole through which a sealing wire is run. When the valve is properly adjusted, the housing is set and secured in place by means of the seal, preventing careless or malicious meddling with the equipment.

4. EQUIPMENT CARE

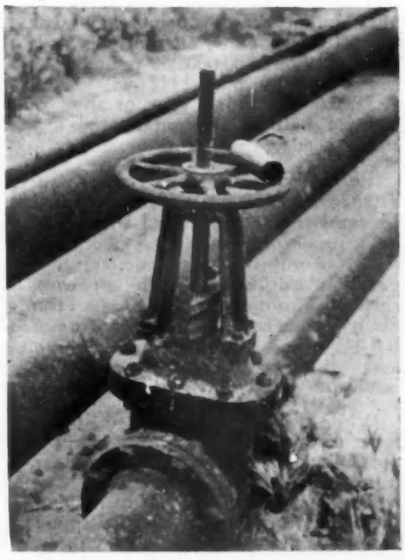
Meter Protected by Steel Housing

ONE OPERATOR erected a sturdy steel housing to protect gas recording meters from damage by the elements, stray cattle or trespassers. The structure is a box of sheet steel four feet square by 18 inches deep. The bottom is open sufficiently to allow passage of connecting pipes from the flow line to operate the meter, and the entire device is set over the meter on supporting steel frames clamped firmly to the line. The front of the housing contains a full-size hinged door, which may be opened wide when desired to facilitate reading meters or changing charts. A latch placed on the free side of the door keeps it closed, and a padlock is attached if necessary to further protect the enclosed apparatus.

Ordinary weather does not affect the housing as it is moisture-proof, and the roof is peaked to allow rain to drain quickly. The structure is removed by simply loosening a few bolts to release clamps, and it may be carried away without molesting the meter.



This housing over a recording meter is easily and quickly fastened to the line.



A small piece of pipe is set over the screw of this valve to keep off dirt.

5. EQUIPMENT CARE

Pipe Shields Threads Of Screw-Stem Valve

A RELATIVELY common characteristic of the outside screw rising stem type gate valve commonly used on pipe lines or gathering systems, is the tendency for it to gather oil and moisture on the exposed threads of the stem, and then collect dust and other foreign matter to make operation of the gate quite difficult following a relatively long period of inactivity.

The foreman of one company overcame the problem by covering the exposed screw of each gate with a short nipple of 1-inch pipe, one end of which had been covered or welded closed.

It was found through use of these inexpensive hoods that the stem threads remained clean and more easily operated for a longer period. At the same time, the threads are protected to some extent from physical injury that might be brought about by an accidental bump of a tool or fitting.

A small loop of heavy wire welded to the side of each cap allows it to be hung to some part of the body of the gate while the gate is being operated.

6. GADGETS

Pipe Used to Make Tall Lease Ladder

INSTALLING the lubricator for the bottom-hole pressure bomb on the top of the tubing head on wells having high Christmas trees is difficult unless a sturdy, broad-based ladder is used to enable a man to work at the top of the tubing head.

One company operating a number of high-pressure flowing wells that are tested at frequent intervals during their flowing life, has built a number of inexpensive, all-welded ladders of pipe material that can be left at each well location to facilitate setting up operations necessary in runing the bomb.

Made of 2-inch and 1½ pipe, the ladders are being used to a good time-saving advantage, their original cost soon being offset by the saving in time at each well. A small sheet metal platform near the top of the ladder provides a convenient place on which to rest tools and fittings while the lubricator is being installed or removed.

This ladder left at well to be used when running bottom-hole pressure bombs.

COUNTY RECORDS BROUGHT TO YOUR DESK

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EDGAR TOBIN AERIAL SURVEYS

San Antonio
Houston

PHOTOGRAPHIC MAPS
REGIONAL BASE MAPS
LAND OWNERSHIP MAPS
ABSTRACT SERVICES

SHAKE-OUTS
From The News

Oil played an important role in the past week's war news. Germany allegedly was placing strong pressure on Soviet Russia for additional economic cooperation, including larger quantities of petroleum. Japanese attemps to obtain concessions from Dutch East Indies for oil and certain metal ore supplies failed, but both sides asserted this would not lead to fighting. The United States continued to wrestle with the problem of a tanker shortage, created by diversion of boats from domestic routes to service that would assist in getting petroleum to Great Britain. Loading of lube oil onto a Japanese freighter at Philadelphia was stopped at suggestion of Petroleum Coordinator Ickes, who wanted it saved for oil-famined Eastern United States.

The United States Army is standardizing every phase of its motor transport units, including gasoline and lubricating oils. Originally, the various types of vehicles required gasoline of four different octane numbers, which has now been reduced to three and eventually it is hoped to standardize on one single octane grade (about 80). The different types of engine oil have been reduced from 8 to 3; transmission oil from 4 to 2; greases from 5 to 3.

Oil-burner production and shipments during the first four months of this year were far ahead of the previous two comparable periods. Shipments in 1941 totalled 73,273 units, against 51,649 and 37,723 in the same four months of 1940 and 1939, respectively. New orders in April were 23,642, compared with 15,889 in that month of 1940. Figures, by the Census Bureau, cover industrial and domestic burners.

Alarmed home-users of heating oils in the Middlewest have been assured by Chicago oil and oil burner distributors that no oil shortage is impending there. To make good their assurance that supplies are available, dealers are offering firm contracts and price protection for next winter's requirements. This applies to grades used in home burners; the situation regarding heavier fuel oils is not so reassuring in the Chicago area.

Lion Oil Refining Company will construct a 15,000,000 cubic foot hydrogen sulfide removal plant, the first big installation of this type in Arkansas. By removing the injurious hydrogen sulfide contents from sour gas produced in the Magnolia field, it will be possible to stop the discharge of this gas into the air and use it to provide power. Thus it is a conservation measure from the standpoint of both utilization and waste prevention.

Of a total $2,057,764,000 the United States government is committed to spend for additional expansion of defense plant facilities, only $13,933,000 is to be spent in the petroleum and coal industries. Only plants for manufacturing electrical machinery and equipment have a lower total. Private capital of the oil industry at the same time has made commitments for spending $7,275,000 for defense plants.

Modification of the 40-hour work week is not necessary in connection with the defense program, in the opinion of OPM Director General Wm. S. Knudsen or Labor Secretary Perkins. Moreover, it will not be necessary, thinks Knudsen, even when defense industries reach full employment next March or April.

Industrial production henceforth is expected to level out, and for next year, there is anticipated only a gradual advance above present levels, limited by addition of new plant capacity. The Federal Reserve Board Index of industrial output rose in May to 148 percent of the 1935-1939 average from 140 percent in April, but some economists doubt if the index will go above 150 this year. Increasing employment in defense work is expected to be offset by declining civilian work, and forward buying in civilian industries is expected to decrease.

Although aluminum is the most abundant mineral element in the earth's crust, comprising about 8 percent, the expanded airplane production program mapped out by the United States, in requiring an estimated 1,600,000,000 pounds annually, will exceed previous yearly output of the world. Aluminum production in the United States during 1939 was 327,000,000 pounds, currently is at a rate of about 600,000,000 pounds per year, and by mid 1942 will reach 825,000,000 pounds a year, or approximately half of the anticipated airplane needs.

Recent increased legal attacks on Texas proration orders is attributed by some to the absence of the political acumen of Commission Chairman E. O. Thompson, who is actively engaged in military duties as an army colonel. Thompson, they say, had the ability to persuade many to forego law suits and by giving a little here and taking a little there satisfied numerous disgruntled oil producers.

While citizens of the United States, especially in the East, worry about a possible gasoline shortage in the near future, recent advertisements of Canadian tourist bureaus are advising them that they will be able to spend their vacations in Canada without fear of motor fuel scarcity.

HIGHLIGHTS IN THE WEEK'S NEWS

Legislation

Illinois Factions Agree on New Oil Control Bills

Prepared as a compromise program, a series of four bills vesting control of the Illinois oil and gas industry in a new division of the state department of mines and minerals was introduced June 17 in the senate, and passed by that body June 20. House passage was predicted this week.

Representing an effort to secure immediate legislation in the face of a threat of federal control, the measures apparently have been approved by factions in the industry.

The key bill requires operators to drill and plug wells to prevent seepage and waste; to secure permits on prescribed forms; filing of reports of all drilling and well-log records, use of approved drilling and field methods to prevent fires and other damage; identification of ownership of all wells and other petroleum facilities, and redress in circuit courts following division hearings.

Provisions are also included in the measure permitting drilling of one well in a limestone pool or horizon per 20 acres, and the drilling of wells under certain conditions in tracts measuring less than 660 feet in width or length. Wells may be drilled to another producing horizon in similar tracts.

Other bills in the series call for an appropriation of $150,000 for the new division for the next two years, and an annual salary of $6000 for the division chief to be named by the governor.

Preparation of the bills was encouraged after a senate subcommittee met June 9 in Washington with Petroleum Coordinator Harold L. Ickes, who told the group the state should enact some control legislation in line with the national defense program to prevent physical waste and drilling unnecessary wells.

Clarence T. Smith of Flora, Illinois, representative on the Interstate Oil Compact Commission, who led an unsuccessful fight for an abandoned administration-supported anti-physical waste bill, characterized the new program as "a step in the right direction."

Texas Proration Laws Made Permanent

The Texas legislature last week finally passed a permanent oil proration law and a market-demand law.

The passage followed a conference between members of both houses. The Senate preferred extending them for two years only.

Both bills were sent to the governor for his signature and will become laws as quickly as he signs them, since both got a vote of more than two thirds. Since the market-demand bill is an amendment to the general proration laws, it will be permanent likewise.

A third bill passed by the legislature reclassifies marginal wells. Heretofore the law has classified "pumping" wells as marginal wells. This statute was amended to include gas-lift and other forms of artificial lift.

It can never be foreseen what significant developments may transpire at a hearing of the Texas Railroad Commission, and the June 16 meeting held possibilities to attract some top-ranking executives. Shown here is John R. Suman, of Houston, vice president of Humble Oil & Refining Company and president of the American Institute of Mining and Metallurgical Engineers.

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Allowables

Federal Shadow Not Affecting Current Regulation in Texas

Despite lately expressed fears that federal control of the oil industry might mean early termination of any effective or potency of state regulation, no immediate change in the status of state proration in Texas was foreshadowed at the monthly proration hearing of the Texas Railroad Commission at Austin June 16.

On the contrary, harmonious relations between state authorities and the national government were promised.

Two of the three members of the commission, Jerry Sadler and Olin Culberson, just back from Washington for a conference with Oil Coordinator Harold L. Ickes, reported in a jointly prepared statement, read at the meeting by Sadler, that Ickes had exhibited a sympathetic attitude toward them and toward the oil industry of Texas, and that Ickes showed a willingness and desire to help solve any problems arising out of the national defense situation. However, those who expected to learn what was happening in Washington were disappointed, as they revealed nothing of the plans.

In the statement, the Texas commissioners said that their Washington visit had emphasized the gravity of the situation now faced by the nation, and they pledged themselves to wholehearted cooperation with the federal government and exhorted the Texas oil industry to give similar cooperation.

"The industry has a leading role to play in national defense," declared Sadler and Culberson "and as the largest oil-producing state, Texas has a particularly great responsibility. We must lend all aid possible.

"Secretary Ickes wishes to work out a smooth program," the commissioners said, in support of that official.

In connection with the problems created by the diversion of 50 tankers from Gulf Coast-Atlantic movement to British service, the Sadler-Culberson statement said that much criticism had been raised—that the industry was complaining about the ships being used to move oil from South America instead of from the United States. They pointed out that actually the British had asked for bids for supplying the oil, and that the lowest bids were made by American-owned companies which got contracts to supply the oil from their South American properties.

Furthermore, stated Sadler and Culberson, Ickes has said that he might consider sponsoring a regulation of shipments in such manner that American producers will share in the shipments to Britain.

Although operators for the most part were content to let commission members do the talking, eagerness to cooperate in defense was voiced by several witnesses heard at the meeting.

Unification of the oil industry is necessary, asserted one witness, who

Extraordinary circumstances surrounding the oil industry because of the national defense efforts were further emphasized by the fact that the Texas Railroad Commission hearing was presided over by a white-uniformed Colonel E. O. Thompson of the United States Army, who has been conspicuously absent from recent hearings because of his military duties, although he continues as chairman of the commission. To the left of Thompson is Jerry Sadler and to the right is Olin Culberson, who returned from a conference at Washington to report to oil men on this phase.

added that the industry under a branch of the national government was fully justified, and in fact was a month or more overdue when it came. Others would not discuss the possible justification for government coordination, but to help the national defense program were for full cooperation.

Commissioner Sadler draw a laugh from the audience at this point with the observation that, "if the Texas oil industry is not unified in Texas, it will be unified in Washington."

Good Demand Reported

Diversified or conflicting conditions in the market for crude oil in Texas were evidenced in statements of the several oil-company representatives who were heard by the commission when it invited advice on proration in the different districts of the state.

Firm markets were claimed for the Panhandle; for the Ricaby field of South Texas, which produces Mirandograde crude, valuable for lube content and for Talco, which yields oil rich in asphalt content.

The representative for a Panhandle refining company asked for higher allowables in that district to satisfy market demand locally, claiming refineries there had less than 10 days' supply of crude on hand.

Increase of Talco allowables from 33 to 38 barrels per well per day was sought as precaution against interruption of shipments of asphalt in fulfillment of contracts affecting national defense construction. Those requirements have been met heretofore, it was conceded, but the higher allowables were said to be needed to avoid possible interference with the movement. Asphalt from Talco crude will be needed in construction of an airport in Florida and at an airport at Corpus Christi, as well as for construction of army camps and roads. A third of the asphalt made from Talco crude is being used at airports and army camps, it was stated, while additional supplies are being used indirectly in national defense through utilization in road building and for other allied purposes.

The spokesman for Ricaby field producers asked for an increase of allowables there to 25 barrels a day for the 9 wells of that area.

In contrast with the optimistic implications of the above requests for higher allowables, the representative of one purchasing company, Maston Nixon of Southern Minerals Corporation, Corpus Christi, warned that the tanker shortage was causing accumulation of oil on the Gulf Coast and that the Texas industry must face the unpleasant fact of the curtailed demand for its oil. All crudes that go to Eastern markets via the Gulf Coast are affected, he asserted, and production of such oils will have to be cautiously regulated. His company has been adding steadily to storage, he said, and consequently, it was lowering by 15 percent its nominations for purchases from all fields in Texas.

"There is nothing to be gained by kidding ourselves," Nixon said. "For every 25 tankers taken away, 100,000 barrels of oil daily is accumulating on the Gulf Coast. And this oil," he added, "is not only Gulf Coast crude, but also oil from West Texas, the Panhandle, North Texas, East Texas and New Mexico." He said that 7½ million barrels of the 8 million-barrel storage capacity at Corpus Christi was filled.

Revise KMA Gas/Oil Ratio

The Texas Railroad Commission has revised its gas/oil ratio rule for the KMA field, Wichita and Archer Counties, to provide that any well producing with a ratio in excess of 2000/1 may produce only the amount of gas determined by multiplying the daily allowable by 2000/1, and to allow production of the amount of oil prescribed by the gas limit.

Courts

McElroy Decision Hits Proration Shut-Down Rule

Texas District Judge J. Harris Gardner at Austin last week upset the Texas Railroad Commission's proration order for the Gulf-McElroy area in the McElroy field, Crane and Upton Counties, in effect doubling the allowable assigned by the commission. The order divided the field's allowable between three areas on the basis of oil in place, and ruled invalid shut-downs on the basis that they permitted migration of oil to low-pressure areas. The decision may be very important because of its possible influence on other fields of the state.

The commission fixed an allowable of 19,168 barrels of oily daily from the McElroy field, which is a combination of Church-Fields, Gulf-McElroy and McClintic areas. With shutdown deductions, this allowable was lower. The decision gave the field a minimum allowable of about 44,000 barrels daily, which is to remain in effect permanently unless materially changed conditions are proven.

The commission immediately filed notice of appeal.

The court held the order valid insofar as it regarded the three areas as a common reservoir and regulated and prorated the field as such. The court found, however, that the Gulf-McElroy area, in which Gulf Oil Corporation is the principal producer, contains 80 percent of the field's recoverable oil in place, and held that it was entitled to 80 percent of the field allowable, the Church-Fields area 15 percent, and the McClintic area 5 percent.

Gulf Oil Corporation alleged that the commission's order alloted the Gulf-McElroy area only 50 percent of the field allocation and that was unfair.

The court also ruled that the market demand for the Gulf-McElroy area is 35,000 barrels daily, and that purchase of that amount of oil will not diminish or affect marketing of any oil from other fields.

Shut-Downs Held Void

After fixing the minimum allowable, the court fixed the proportions by which it should be distributed among the three parts of the field. The shut-down order was held void because pressures tend to equalize during the time field is closed in, and as the pressures equalize, oil moves from the high pressure areas to those of low pressures. In other words, it moves from the McElroy ranch toward the Church-Fields and McClintic sections of the field.

Since this condition exists in every field, that is, pressure and oil move from the high-pressure toward the low-pressure areas while pressures are equalizing, this portion of the judgment may affect every field in the state. Certainly, despite the fact that the court found this condition exists in gas-driven fields, the rule would apply in East Texas where an active water drive alters pressures radically within a few hours.

To avoid possible confusion, the court itemized its ruling. First, it found that order of the commission valid which defines Church-Fields, McClintic and Gulf-McElroy as a common pool. It

found valid, also, the order fixing some proration units containing as much as 160 acres. This would eliminate the necessity for drilling several more wells in the sparsely drilled McElroy ranch.

Per-Well Allocation Hit

The court held invalid that method of allocation which distributed half the field allowable on a per-well basis. Such a method, the court said, caused drainage of oil from the properties of the plaintiffs. Further, that the portion of the order allocating 50 percent of the field allowable on acreage and unit potentials is valid, "and would be reasonable and valid if it were extended and applied to the entire field allowable instead of being limited to one-half thereof."

"Any method of allocating the total field allowable . . . which in its application . . . does not result in the allocation to . . . the Gulf-McElroy area of at least 80 percent . . . or more than 15 percent . . . to the wells and units in the McClintic area is . . . void because the same would result in a continuance of the now existing confiscation . . . "

"The orders fixing the daily field allowable . . . at 19,168 barrels, are beyound the power of the commission . . . unless and until there has been found to exist material and substantial change in the relevant conditions affecting such area, including the absence of any differential in reservoir pressure, as between the Gulf-McElroy area and the Church-Fields area to the north, or the absence of a purchaser ready, willing, and able to purchase, transport and handle the oil to be produced from said area without physical waste.

"Any order . . . which fixes and limits the total allowable . . . from that part of the McElroy field which is designated as the Gulf-McElroy area in an amount less than 35,000 barrels of oil per day would be void when applied . . . because any such application . . . would bring about a continuance of the enforced drainage of their (the plaintiff's) properties . . .

"The so-called shut-down orders . . . are unreasonable, unjust, inequitable, discriminatory and void, the same resulting in a readjustment of reservoir pressures during the period of shut-downs with the consequent drainage of oil from the high pressure area where the properties of the complaining parties are located to the surrounding low pressure areas and especially to the Church-Fields area."

General Petroleum Withdraws From Elk Hills Suit

Withdrawal of General Petroleum Corporation of California from the government suit over ownership of the Elk Hills naval oil reserves will enable the United States shortly to take undisputed jurisdiction over Section 16 in that field, ending 27 years of litigation and controversy, it was announced June 19 by Secretary of the Interior Harold L. Ickes.

Abandonment of opposition by the company, explained by its counsel as motivated by a desire to cooperate in the defense program, was reported to Washington by telegraph, eliciting from Ickes comment that "the action of the corporation in abandoning its opposition is only another indication of the kind of cooperation the nation is counting upon, and getting, in this national emergency."

Washington Oil Round Up

[*Continued from page 13*]

The whole oil coordination program, he said, will be financed from defense funds, subject to approval by the Bureau of the Budget.

Each of the five regional zones will operate under the functional advisory committee from the industry, which will be composed of four members to represent production, refining, marketing and transportation. It will be their duty to assist in the coordination of the industry for national defense.

Ickes requested that nominations for the various advisory committees be sent his office not later than June 28 and announced that after full consideration of such nominations the committees would be organized.

Promises No Prosecution

Apparently mindful of the bad taste left in the mouth of the industry by the so-called Madison cases based on a program undertaken at the instigation of the government to dispose of distress stocks of gasoline, Ickes presented as the first speaker, the Solicitor General—Acting Attorney General Francis Biddle—who assured the meeting that nothing they did under the direction of the petroleum coordinator would be made the subject of action by the Department of Justice.

Biddle told the oil men, incidentally, that "largely as a result of the appointment of the Secretary as Coordinator, I firmly believe that a decree or plan can be worked out satisfactory to your industry" in the anti-trust case now pending in the District of Columbia court.

The acting attorney general admitted that the industry mistrusted the government, and the government was mistrustful of the industry and declared that this mutual mistrust must be overcome in the interests of national defense.

Assuring that the department would use "discretion" in the enforcement of the anti-trust statutes, he explained, "I do not mean to say that the department would hesitate to enforce the law, but I do mean to say that the circumstances necessarily surrounding the enforcement of any law are changed in a time of grave national emergency."

An agreement has been reached, he disclosed, whereby suggestions to be issued by the coordinator will be referred to the Department of Justice for approval "so there can be no question of fear of the industry running into a snag," while the department itself will consult with the coordinator before taking any action against the industry. As a further safeguard, he said, all recommendations or directions by the coordinator will be reduced to writing, approved by whatever industry committees are concerned, and published in the Official Register.

Changes Are Foreseen

Today's problem is transportation, but that of tomorrow may and probably will be different — production, shortages of vital materials or lack of labor—Davies told the conference.

Because the situation is not static, he explained, it is impossible now to lay down a hard and fast program, but "the stern necessity of accommodating the petroleum resources of the nation to the critical needs of national defense obviously demands government coordination."

"Left to itself," he pointed out, "there is no way by which the industry can effectively organize its resources and facilities so as to deal, quickly and decisively, with the extraordinary problems of the day. No matter how patriotic and unselfish the component interests and groups within the industry, it is clear that as separate and competing units they cannot act cooperatively, independent of government direction."

At the outset of his talk, Davies made it clear that he considered himself dissociated from the industry and an employe of the government, as necessitated by the requirement that he approach his task from the impartial standpoint of government.

Entrusted by the coordinator with the job of telling the industry what would be required of it, Davies frankly admitted that at the present time such a statement was impossible. "The complexity of those problems and the unforeseeable character of future events prevents any such concrete statement today," he said. "But aside from that, the problems that confront us will not be static—they will be constantly changing. They will arise, first, from events outside the industry, and then within the industry—between branches of the industry, and between units within its branches—all as events force an adjustment, first here and then there. In the circumstances, I can do little more than sketch broadly a few of these problems."

Transportation Efforts

Today, he said, the question of transportation is uppermost, and the withdrawal of tankers has forced the necessity for finding alternative methods of movement.

"Some of the more obvious alternatives have already been made wholly or partially effective," he explained. "These include transfer of certain tankers from their customary routes, more complete use of existing pipe lines, and construction of additional pipe-line capacity. The necessary legislation to enable the heavier loading of tank ships is well on its way, and its passage is expected this coming week. The Cole bill clearing the way for pipe-line construction from principal sources of supply to the Atlantic Seaboard has passed the House, and is now before committee in the Senate. Negotiations with railroads and oil companies looking to the utilization of idle tank car capacity, are in progress.

"The extent to which all existing transportation operations can be speeded up and made to function at an absolute maximum, are having attention, and here let me say that I think a very large total contribution can be had from the cumulative effect of a large number of individually small adjustments in a whole series of activities, as loading, dispatching, pumping and inspection. It

would seem to me not impossible that as much as 10 percent additional effective service might be had from existing transportation facilities under the stimulus of practical necessity. In normal times, scarcely any operation is conducted with 100 percent efficiency, and an increased productivity of ten percent would seem well within the realm of possibility. And ten percent would be of enormous value at this time."

However, he stressed, these moves are merely a beginning, and to avoid shortages at some points and oversupply at others, "markets which have been traditionally supplied from one source may have to be supplied from another, at least temporarily; refineries may be called upon to change their runs, their yields, and even the quality of their products; certain producing regions may temporarily need to increase their production while others temporarily decrease theirs, in order to make available the quantities and qualities, when and where needed.

"All these adjustments between producing, refining and marketing regions, and producers, refiners and marketers within such regions, must necessarily be worked out in the light of the facts as they develop in actual, concrete situations. The difficulties and the complications may be considerable, but our defense needs must be supplied at all times and our civilian needs without restriction if that be physically possible."

Future Problems

Turning to the future, Davies suggested that the problem of "tomorrow" may well be in production, with the necessity to undertake special conservation measures with respect to particular reserves of oil, strategically and geographically so located as to be indispensable to the Navy or essential because of certain peculiar refining characteristics.

"Or perhaps the problems of tomorrow will arise from shortage of vital supplies and services such as steel, skilled labor, machinery, motor transport equipment," he said. "Already we face the prospect of limitation upon supplies of steel and other metals and materials. It may be that measures will soon be required to avoid the continued competitive drilling of unnecessary wells in proven fields. If shortage of metals and materials prevents competitive drilling, it is obvious that this, in turn, will require further equitable adjustments between operators in order that the fortunate few may not have an unfair advantage. When we speak of drilling restrictions, however, we must recognize that the search for new fields should be the last activity to be so restricted. Unless the discovery rate is maintained, we shall find ourselves not only depleting reserves, but in the unfortunate position of being compelled to overproduce existing fields with all the waste of oil and gas which that entails.

"The industry in general has long supported a policy of conservation and efficient use. Important as conservation has been in the past, it is doubly important today. Our every resource must be made to count; we have no wealth to squander. In this direction, the great reservoir of knowledge and experience of the state conservation authorities will be of great value. The able administration of their respective state conservation laws, directed to the needs of national defense, offers an assurance of good practice and minimum waste in most of the important producing areas. In regions without effective conservation laws, and where good conservation practices are not fully observed, we must seek with you other measures to solve this problem."

Davies also foresaw possibilities that shortages in material and labor may necessitate changes in marketing and suggested that the industry might temporarily forego the further expansion of marketing facilities. He also urged that action be taken to minimize cross-hauling and that other efficiencies be adopted with a view, among other things, to minimize the increases in prices which will come about as production and operation costs rise.

All these subjects, he said, must be considered by the committees that are to be set up representing the various principal functions in each of the five regions, for which nominations were asked from all interests in the industry.

England Dependent On Americas

Davies said he found that there were some 20 governmental agencies concerned with oil and that an effort had been made to have some of the more important ones represented at the meeting. Among these to offer prepared comments were Leon Henderson, Administrator of the Office of Prices and Civilian Supply, and Blackwell Smith, OPM Priorities Division. In addition, prepared speeches were made to the gathering by George R. Cottrell, Oil Controller for Canada, and E. E. Soubry, Director of the Trade Control Committee, Petroleum Board, London.

Somewhat startling were the remarks by Soubry who stated that: England is now wholly dependent upon oil supplies from the Western Hemisphere; British civilian motoring has been curtailed 65 percent, with the remaining 35 percent restricted to emergency purposes such as doctors, ambulances and fire engines; total English gasoline consumption today, including that used by all branches of the armed forces, is less than that of normal years; and that all British-flag tankers are now entirely engaged on transportation of oil to Great Britain or other war zones, and all tanker movements controlled by the British are entirely on short-haul basis.

Soubry, former head of Anglo-American Oil Company, is in the United States to supply the government with full facts on the English oil situation. He said: "We have given full facts to the proper United States officials and an appreciation of these facts has prompted the United States to respond with the additional aid requested by providing facilities for augmenting the movement of oil from this side of the Atlantic to the British Isles."

Commenting on the English gasoline situation, Soubry explained that, while a reduction of 65 percent had been effected in so-called civilian use, a large increase had been required for this product in the transportation of goods from the coast to inland points as a result of the war, as well as for rehabilitation activities following aid raids.

By way of assuring those who have questioned the transfer of American tankers to shuttle service for moving South American oil to Halifax for subsequent shipment to England, Soubry made the point-blank statement that every ton of oil moving to England today is coming from the West, and that all shipments from Abadan to the United Kingdom have ceased.

Canadian Oil Control

Injecting a comparative note into the subject of oil coordination for national defense, George R. Cottrell traced the history of his office in Canada since that country entered the war and emphasized that the satisfactory results obtained thus far were the result of close cooperation between the oil industry and the government rather than from arbitrary and drastic measures. He pointed out that his office has been able to deal with, and would continue to deal with, the problem of non-essential uses of petroleum products in order to conserve supply, but that if the Canadian war effort was to continue unabated, cooperation of the United States' oil industry would be required. Controller Cottrell stated that his purpose in Washington was to solicit that cooperation with the assurance that Canada would do its part while embracing any plan agreed upon by the United States industry and Ickes. Smith, of the Priorities Division, spoke briefly of the plan of organization of his department, explaining how priorities are established and stating that in so far as oil is concerned, it would be the policy of the division to forego any action until a clear position of any situation that may arise has been established by Ickes' office.

Meeting Thrown Open

After hearing various government officials, the meeting was thrown open for general discussion. Disappointing were the comments made from the floor when most speakers were concerned with individual problems rather than with the broader aspects of the organizational plan or emergency program. Representatives of many marketing districts urged that no restrictions be placed upon their supply sources, and that any committee set-up include representatives from their particular groups. Also, such fringe-line interests as taxi-cab associations and home insulating manufacturers expressed their concern, or envisioned sales opportunities from the movement. Only a few representatives of the operating divisions were heard, and these confined their remarks to pledges of full cooperation with the coordinator's office.

East Coast Oil Shortage

Dislocation of the industry's distribution system through transfer of 50 tankers from Gulf-Atlantic coastwise shipment to British service, which threatens the East Coast with an oil famine and the Gulf Coast with a surplus because of inability to move products, continued a problem of major importance. However, there were various significant developments in this connection that gave increasing assurance that the oil movement disruption might be far less serious than heretofore pictured.

Among the important developments in this connection was news that:

1. Coordinator Ickes was endeavoring to work out arrangements whereby part of the shipments to Britain would originate on the Gulf Coast, whereas the movement heretofore has been altogether from South America.

2. Transfer of three tankers from California-Atlantic service to Gulf-Atlantic service so they could move larger

quantities of oil yearly because of the shorter haul.

3. Further indications that load-line limitations on tankers will be increased by 3 percent, which would enable each boat to carry more cargo.

4. Progress made in plans for new pipe-line systems.

These steps indicated that there would be increased movement of petroleum from the Gulf Coast and to the Atlantic seaboard.

Britain To Use Gulf Crude

Heeding urgent pleas of a southwestern Congressional delegation that their oil interests be permitted to participate in the supply of oil to Britain under the Lease-Lend Act, the coordinator June 19 announced American refineries will be given an opportunity to supply at least half of the petroleum products purchased by the government for the use of England.

Representations of the Congressmen and Ickes' decision followed a determination by the Lease-Lend Administration that funds could be used for the purchase of oil, heretofore secured by England almost entirely from Latin American sources. The oil purchases are being made by the Navy Department as agent for the administration, and various oil interests, especially Gulf independents, had represented that they could meet part of the demand and should be permitted to bid on the business.

Placing of British orders with Gulf Coast refiners will not affect the Eastern transportation problem. However, it should serve to prevent the feared piling up of stocks on the Gulf Coast because of the inability to move it to the East Coast due to transfer of tankers from the Gulf-Atlantic service.

Increased Tanker Movement

A favorable report was made by the Senate Commerce Committee on a bill previously passed by the House that would authorize relaxation of load-line limitations for tankers and other vessels. It has been estimated that this action would mean tankers in Gulf-Atlantic service could haul from 15,000,000 to 20,000,000 barrels of additional oil annually, or equivalent to 10 or 13 tankers.

As the first definite move toward filling the gap in transportation in the east, Ickes, after conferences with officials of Sun Oil Company and Standard Oil Company of California, announced June 18 that he had recommended transfer to the Gulf-Atlantic run of three tankers now carrying oil between California and East Coast ports. Because of their shorter routes, the tankers are expected to be able to move 5,000,000 barrels of additional oil. On their regular routes, Ickes explained, the three tankers hauled about 4,000,000 barrels of gasoline to the East from the West Coast annually. They are expected to take 9,000,000 barrels per year from the Gulf to Atlantic ports. Ickes expressed his appreciation to these companies for their willingness to sacrifice "considerable inconvenience and financial loss" in the interest of national defense.

Pipe Line Progress

Meanwhile, from the industry came indications of progress in proposals to build pipe-line carriers from Texas to the Atlantic. Plantation Pipe Line Company announced it was rushing preparations for construction of a 1261-mile system from Baton Rouge, Louisiana, to Greensboro, North Carolina. Pipe has been ordered, right-of-ways are being purchased and pipe delivery is expected to be started in July, with completion scheduled for October. The line will move 60,000 barrels of refined products daily, and may be increased to 90,000 barrels. On the basis of 60,000 barrels daily, it would take the place of 10 tankers. Therefore, it seems assured that this line will be built immediately, providing Congress passes the Cole pipe line bill now pending.

Representatives of major companies conferred during the week with Davies, reportedly tentatively agreeing on immediate construction of a $62,000,000 1600-odd mile gasoline pipe line from Texas City, Texas, to the vicinity of Philadelphia and New York. Among those participating in the discussions were John Brown, president of Socony-Vacuum Oil Company; J. Howard Pew, president of Sun Oil Company; W. A. Jones, president of Cities Service Company; H. F. Sinclair, president of Sinclair Company interests; Patrick Hurley, representing Sinclair; W. S. Farish, president of Standard Oil Company (New Jersey); Robert H. Colley, president of The Atlantic Refining Company, and B. I. Graves, president of Tide Water Associated Oil Company.

Whether these and other lines are constructed seems to depend mostly upon the action taken by Congress on the Cole pipe line bill.

Expedite Cole Bill Hearing

Moving to expedite enactment of the Cole bill, providing for government construction or financial assistance to private concerns in building new pipe lines, and endowment of pipe-line builders with right of condemnation to procure passage, the Senate Interstate Commerce subcommittee in charge of the bill met June 19 and agreed to open hearings on the measure June 23.

Quick action on the legislation has been urged by Ickes, who pointed out that no steps can be taken toward construction of any of the projected lines until the measure becomes law.

There also have been suggestions that the industry's plan to construct shipyards for the building of tankers be laid aside until it is seen how many pipe-line projects are undertaken, and whether they will meet the transportation problem from the Gulf Coast to Atlantic seaboard.

Export Control Imposed

In a sweeping order which will permit instantaneous action to cut off oil supplies from any country whose interests are inimical to those of the United States, President Roosevelt June 20 placed all petroleum products under rigid export control. A flat embargo on all shipments from the Eastern seaboard, except to Great Britain, Egypt and the Western Hemisphere, was imposed immediately. The desirability of saving all East Coast supplies because of the oil shortage threat was the reason for this. Restriction of shipments from Gulf Coast or Pacific ports is not contemplated, but by subjecting all petroleum products to export control the machinery for such restrictions is set up and can be put into motion at once if conditions abroad make advisable the stoppage of movements to Japan or Russia.

Earlier, two actions directed toward stopping East Coast exports had been taken by the petroleum coordination office.

Holding that domestic needs took precedence over export trade, Ickes June 16 halted shipment of 240,000 gallons of low-grade lubricating oil to Japan at Philadelphia, and the following day called on the industry to halt further export sales from the East Coast not given approval by his office. A telegram sent 32 oil shippers on the East Coast by Davies stated, "In view of the impending petroleum shortage in the Atlantic Coast area, it is imperative that drainage of stocks from this region be avoided. I suggest therefore that no further sales of petroleum products for offshore shipment be made without prior consideration by this office."

Seek To Curb Power

Congressional opposition to the oil coordination effort set up by President Roosevelt's designation of Ickes as "czar" of the industry broke out with the introduction by Representative Robert F. Jones and Senator Guy M. Gillette of legislation "to limit the duties which may be performed by certain officers and employees" of the government.

The measure, it was admitted, was specifically directed against Davies, last week named by Ickes as deputy coordinator.

Under the terms of the bill, "no officer or employee of, or adviser to, any department, agency, independent establishment or instrumentality of the federal government shall perform duties in any field in which, or similar to fields in which, such person was previously engaged, if while so engaged and by reason of being so engaged he, or the company of which he was an officer or director at the time, was convicted or pleaded nolo contendere or had a judgment or decree entered against him or it in any case involving the United States."

The bill was an expression of the dissatisfaction which prevails in some quarters over the new coordination program, but there was no indication that administration leaders would permit its serious consideration.

Threatens Illinois Casing Supplies

Coordinator Ickes on June 19 threatened to clamp down on pipe supplies for completion of Illinois wells because of "criminal waste" in that state.

He admitted, however, that he had been informed conservation legislation was being pressed vigorously, and expressed the hope that it would be adopted without delay.

Advised at a press conference that there is a shortage of steel casing in Illinois, the coordinator said he had not looked into the situation, although he had asked E. R. Stettinius, Jr., chief of the Priorities Division of the Office of Production Management, to advise him of any applications for priority orders on the part of the oil industry.

However, he said, the question assumed the necessity for bringing in new wells and, he declared, "Illinois has been wasting oil at a criminal rate and it is a question whether we should give privileges in such cases."

As a general policy, he added, if priorities are granted, the first on the list "ought to be those companies which bring in oil on a conservation basis."

OPACS Requests No Advances

With reports current that government officials saw 20 cents as the "top" price to which gasoline should be permitted to advance, the Office of Price Administration and Civilian Control "moved in" on the refiners and marketers June 19 with a "request" that no further advances be made

in prices except after consultation with defense officials.

The suggestion that prices be stabilized was made in a letter sent to members of those branches of the industry, calling attention to the recent meeting between Leon Henderson, director of the OPACS, and representatives from the Northeastern and Mid-Atlantic states at which it was generally agreed that no further substantial increases in gasoline prices in the East are called for unless basic conditions change.

"We request your company not to make any further advances in prices except when this office has been given reasonable advance notice and opportunity is had to study the proposed increase on the basis of appropriate data indicating that costs of operation have increased," he wrote. "We should expect this undertaking to relate also to changes in the prices of basic raw materials affecting prices of finished products so far as they are under your control."

Discussing the shortage situation in the East, Ickes disclosed that his office is considering plans for restricting consumption, but that no decisions could be made until all possible transportation improvements have been made. He admitted tentative plans have been drawn up, but refused to reveal details as being "too disturbing to the public." However, he said, it is true that consideration had been given to the adoption of ration cards

Meanwhile, John W. Frey, associate director of the Petroleum Conservation Division, told the District of Columbia Petroleum Conservation Committee that the government does not "want" any sort of rationing. Frey described as unfortunate Ickes' use of the term "gas-less Sundays" in describing the steps which might be taken to deal with the shortage, saying that was merely "a figure of speech."

However, the Interior official said, the government is not taking seriously the claim advanced by J. J. Pelley, president of the Association of American Railroads, that there are 19,000 idle tank cars which could be thrown into the breach caused by the diversion of 50 tankers from the Gulf-Atlantic trade. The claim that 19,000 cars, most of them privately owned, are available was made by Pelley in a statement to the coordinator. These cars, he said, are lying idle on sidings, and if put into use could deliver twice the capacity of the tankers which have been transferred to the British "shuttle" service.

While defense officials were represented as skeptical that so many cars were available, the situation will be thoroughly surveyed with a view to making use of any rail facilities that may be obtainable.

Charges that Japan and the Axis powers are being supplied with oil transported in American-owned tankers were denied during the week by the Maritime Commission, which announced that a current check of its records "shows American-owned or controlled tankers are not carrying oil directly or indirectly to Germany, Italy or Japan."

No tankers under American registry have engaged in trade to those countries since the outbreak of the war, it was declared, and, with the exception of one ship now completing a voyage to Japan under a contract arranged some time ago, no American-owned or controlled tanker under foreign registry is so engaged or has been for the last six months, aside from five tankers registered under the German flag and five registered under the Italian flag, over which the owners have been unable to exercise control during the last 18 months.

"American-owned or controlled tankers under all foreign registries have been and are now engaged in Western Hemisphere trades, trades to the United Kingdom and to the Dutch East Indies," the commission said. "This particularly applies to tankers which were at one time under American registry and were transferred to Panamaian registry."

A tabulation by the commission of foreign-flag tankers owned or controlled by American companies, as of May 1, showed 214 vessels aggregating 1,395,112 gross tons. Of this number, 88 of 547,513 gross tons were of British registry; 60 of 498,398 tons Panamaian; 12 of 96,414 tons Norwegian; 22 of 62,617 tons Venezuelan; five of 49,591 tons German; seven of 39,539 tons Netherlands; five of 35,835 tons Italian; six of 37,816 tons French; five of 11,362 tons Argentine; one of 7623 tons Honduran; one of 5322 tons Belgian; and one, each, Cuban (1983 tons) and Danish (1099 tons).

Hint Drop of Plans to Boost Federal Gasoline Levy

The possibility that Congress might abandon its original intention of increasing the federal gasoline tax by one cent per gallon was raised last week by admissions from members of the House Ways and Means Committee that more than $3,000,000,000 of the $3,500,000,000 sought might be developed by changes in the corporation, excess profits, gift and estate, and individual taxes.

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Some Refined Oil Prices Up; Pennsylvania Crude Raised

Despite tightening governmental restrictions on prices of crude oil and petroleum products, there were some additional advances last week in the prices of raw material and finished products.

Prices of Pennsylvania grade crude were raised 20 cents a barrel by leading purchasers, effective June 18, in reflection of continued increase in the demand for lubricants.

Pennsylvania grade crude has been increased six times between November 12, 1940, and June 18, 1941, four 15-cent raises, a 10-cent advance, and the recent 20-cent increase. The aggregate advance of 90 cents a barrel exactly restored the prices to the levels of early 1940, that is, to the levels that prevailed prior to the invasion of the Low Countries and France by Germany. Following that turn in the war, which wiped out European markets for American lubricants, the prices of Pennsylvania grade crude were cut 90 cents in May, June, July and August, 1940, three reductions of 25 cents and one of 15 cents having been made.

Bradford-Allegany Advance

Bradford-Allegany crude now is posted at $2.75 a barrel. Other new prices are $2.40 for Southwest Pennsylvania oil, $2.34 for oil in Eureka Pipe Line, West Virginia; and $2.30 for Buckeye, Ohio, crude.

Products that further advanced in price during the past week included gasoline, natural gasoline, diesel oil, heavy fuel oil, and lubricants, although increases were limited in most instances to certain grades or to certain areas.

Gasoline at Mid-Continent refineries was quoted generally the same as in the previous week, but minimum quotations were up ⅛-cent a gallon in the Middle West and some grades were similarly higher on the Gulf Coast.

On the Atlantic coast, prices of gasoline were generally unchanged, following a comparatively sharp advance the week before.

Natural gasoline was quoted ⅛-cent a gallon higher by some suppliers in the Mid-Continent.

Kerosene and range oil prices were generally unchanged last week in all the refining and marketing districts.

Light fuel oils (mostly heating oils) were not altered in price in the Mid-Continent or the Middle Western refining areas, and some grades were slightly marked downward on the Atlantic Coast, in cancellation of part of the advance of the week before.

Heavy fuel oils and bunker oil were left unchanged in price in the Middle West, on the Atlantic Coast, and on the Gulf Coast, but there was a 5-cent mark-up of No. 6 oil by some Oklahoma refiners.

Diesel oil was advanced from 5 to 10 cents a barrel on the Gulf Coast, but prices were unchanged on both the East and West Coasts.

Lubes Strong

Lubricants continued strong in the Western Pennsylvania and Mid-Continent refining districts. Bright stocks advanced 1-cent a gallon in Pennsylvania prior to the 20-cent mark-up of crude prices, and further increases were anticipated for both bright stocks and neutral oils after the crude raise. In the Mid-Continent, minimum prices of both bright stocks and neutral oils were 1-cent a gallon higher at the middle of the week than a week previously.

Crude Runs Advance Slightly During April

Crude runs to stills in April averaged 3,704,000 barrels a day, an increase of 121,000 barrels over March and 138,000 barrels above April, 1940, it was reported by the United States Bureau of Mines June 18.

Daily average imports of foreign crude also increased by 5000 barrels over March, totaling 128,000 barrels, it was stated.

Total receipts of crude at refineries during the month were 111,671,000 barrels, of which 107,840,000 barrels was domestic and 3,831,000 barrels foreign oil. Crude runs to stills were 111,106,000 barrels, and fuel and losses 131,000 barrels.

Crude stocks at refineries increased 434,000 barrels during the month, from 50,379,000 to 50,813,000 barrels.

Fuel Oil Shipments Lagging; Gasoline Movement Slower

Scarcity of tankers for moving oil from the Gulf Coast to the Atlantic seaboard is beginning to show in movement of the major products, as reflected in the weekly statistics on stocks at both ends of the route.

Shipments of heating oil and fuel oil to the East have been subnormal during the past three weeks, and the latest weekly figures on heating oil showed a withdrawal of that product from storage on the East Coast, whereas there would have been an addition under normal conditions.

For the past three weeks shipments of gasoline have been artificially boosted. But it is significant that there was a slowing down of the movement in the latest week, to approximately the same level as in the corresponding week last year.

Industrial fuel oil came out of storage on the East Coast in the latest week in about the same volume as in the corresponding week last year, but for the past three weeks there was a 350,000-barrel net withdrawal, in contrast with a 435,000-barrel addition to stocks in the corresponding weeks last year.

Limited tanker tonnage probably is reflected also in fluctuations in the in-

Trends of Operations and Changes in Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1938:						
November 12	3,243,250	3,180,000	273,394,000	[6]67,551,000	34,175,000	120,491,000
December 10	3,245,100	3,150,000	[2]269,509,000	68,687,000	32,068,000	118,711,000
1939:						
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,085,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
August 5	[1]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 26	[1]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
October 7	3,435,850	3,505,000	231,564,000	[6]71,152,000	38,549,000	114,397,000
October 21	3,771,550	[2]3,650,000	[3]229,127,000	72,122,000	39,358,000	115,060,000
1940:						
January 27	3,611,600	3,470,000	237,339,000	87,914,000	27,407,000	103,015,000
February 24	3,732,100	3,490,000	240,836,000	96,719,000	25,390,000	103,419,000
March 30	3,841,250	3,585,000	250,561,000	101,370,000	23,778,000	105,081,000
April 20	3,858,550	3,535,000	254,881,000	[1]102,817,000	24,779,000	103,323,000
April 27	3,845,250	3,555,000	256,670,000	102,452,000	24,997,000	102,552,000
May 25	3,835,650	3,580,000	259,330,000	100,297,000	28,356,000	104,015,000
June 22	3,846,450	[2]3,690,000	260,891,000	97,276,000	32,751,000	104,683,000
June 29	3,639,550	3,625,000	262,059,000	95,142,000	33,590,000	104,486,000
July 27	3,690,400	3,555,000	262,579,000	90,173,000	38,981,000	105,924,000
August 31	3,501,350	3,575,000	265,865,000	85,393,000	44,766,000	108,774,000
September 28	3,799,950	3,600,000	263,609,000	82,273,000	47,986,000	108,450,000
October 26	3,640,300	3,565,000	262,746,000	80,891,000	[1]48,893,000	108,475,000
November 9	3,584,200	3,510,000	261,631,000	[6]79,847,000	48,408,000	107,687,000
November 30	3,335,050	3,510,000	262,679,000	80,284,000	46,212,000	106,618,000
December 28	3,385,500	3,585,000	261,552,000	83,274,000	42,266,000	102,620,000
1941:						
January 25	3,599,100	3,625,000	260,093,000	88,762,000	39,039,000	100,297,000
February 22	3,629,650	3,590,000	261,783,000	95,812,000	34,381,000	98,631,000
March 1	3,632,250	3,585,000	263,176,000	96,917,000	33,725,000	97,510,000
March 29	3,746,550	3,625,000	266,187,000	[2]99,727,000	29,949,000	96,152,000
April 26	3,726,850	3,675,000	266,149,000	96,647,000	29,543,000	94,732,000
May 31	3,786,100	3,699,000	262,356,000	93,845,000	33,524,000	92,757,000
June 7	3,816,700	[1]3,880,000	260,956,000	92,522,000	34,305,000	93,384,000
June 14, 1941	3,822,750	3,755,000	.....	92,478,000	35,060,000	93,182,000
June 14, 1940	3,816,200	[8]3,608,000	[4]259,706,000	97,700,000	30,545,000	103,699,000
Change in past year	+0.2%	—4.1%	+0.5%	—5.3%	+14.8%	—10.1%

[1] All time peak [2] Peak for year [3] Lowest since April, 1922 [4] Stocks, June 8, 1940
[5] Lowest since October, 1922, due to shut down of six mid-continent states [6] Lowest for year
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California
[8] June, 1940, daily average

Wholesale Prices of Refined Products in Principal Markets

	Range Last Week (Cents a gal.)		Changes from Week Before	
REFINED GASOLINE				
Oklahoma Refineries:				
60 Octane and under	5 1/8	5 3/8	...	...
63-66 Octane	5 1/8	5 3/8	...	...
72-74 Octane	5 7/8	6 1/8	+1/8	...
80-82 Octane, Ethyl	6 3/8	7 1/8	...	...
Mid-Western Tank Car:				
60 Octane and under	5 1/8	5 3/8	+1/8	...
63-66 Octane	5 1/2	5 3/4	+1/8	...
72-74 Octane	5 7/8	6 1/4	+1/4	+1/8
80-82 Octane, Ethyl	7 1/4	7 1/4	...	...
New York Harbor:				
68-70 Octane	8	8	...	...
72-74 Octane	8	8 1/2	...	...
Min. 80 Octane, '39 Research	8	9	...	...
Gulf Coast:				
60 Octane unleaded	5	5 1/4	...	...
65 Octane unleaded	5 1/4	5 1/2	...	...
68 Octane unleaded	5 3/4	6	+1/8	...
70 Octane unleaded	5 3/4	5 3/4	...	...
72-74 Octane leaded	5 3/4	6	+1/8	...
Min. 80 Octane, '39 Research	5 3/4	6 1/8	...	...
NATURAL GASOLINE				
Grade 26-70:				
F.O.B. Group 3	3 3/8	3 1/2	...	+1/8
F.O.B. Breckenr'ge, Tex.	3	3	...	...
KEROSENE				
Oklahoma Refineries:				
41-43 water white	4 3/8	4 3/8	...	...
42-44 water white	4 1/2	4 7/8	...	...
Mid-Western Tank Car:				
41-43 water white	4 3/8	4 3/8	...	...
42-44 water white	4 1/2	4 7/8	...	...
New York Harbor	5 1/4	5 3/4	...	...
RANGE OIL				
At Oklahoma Refineries	4	4 3/8	...	...
In Mid-Western Market Group 3, basis	4	4	...	...
LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 straw	3 1/2	4 1/4	...	...
No. 3	3 3/8	3 5/8	...	...
Mid-Western Tank Car:				
No. 1 white	3 3/8	4 1/8	...	...
No. 3	3 1/4	3 1/2	...	...
New York Harbor:				
No. 1	5 1/4	5 3/4	...	...
No. 3	4 7/8	5 1/4	...	—1/8

	Range Last week (Per Bbl)		Changes from week Before	
HEAVY FUELS				
Oklahoma Refineries:				
No. 6	$0.75	$0.85	...	+.05
Mid-Western Tank Car:				
No. 5	.85	.85	...	...
No. 6	.85	.85	...	...
New York Harbor:				
No. 5	1.65	1.65	...	...
No. 6	1.35	1.35	...	...
BUNKER C FUEL OIL (Per barrel, ships' bunkers)				
Gulf Coast	$ .85	$ .90	...	...
New York Harbor	1.35	1.35	...	...
DIESEL OIL (Per barrel, ships' bunkers)				
Gulf Coast	$1.55	$1.55	+.10	+.05
New York Harbor	2.00	2.00	...	...
Los Angeles Basin, 27 gravity	1.10	1.25	...	...
LUBRICATING OIL (Cents a gal.)				
Oklahoma Refineries:				
Bright Stock, 150-160 viscosity at 210°, 10-25 pour test	18 1/2	18 1/2	+1	...
Neutral oil pale No. 3 color, 150 viscosity at 100°, 0-10 pour test	10 1/2	11 1/4	+1	...
Western Pennsylvania:				
Bright Stock, 145-155 viscosity at 210°, 25 pour test	22	23	+1	...
Neutral Oil No. 3 color, 150 viscosity at 70°, 25 pour test	28	33	...	...

ventories of crude oils, especially in restriction of demand for Texas oils, which are accumulating in storage.

Gasoline Inventories

In the three weeks ended June 14, stocks of finished and unfinished gasoline on the East Coast were increased 548,000 barrels, whereas there was a 261,000-barrel reduction of the inventory in the like period last year. Along with the contra-seasonal building up of gasoline stocks on the East Coast, there was an above-normal draft on stocks on the Texas Gulf Coast, where a withdrawal of 1,345,000 barrels for the three weeks compared with one of only 610,000 barrels in the similar period last year. On the Louisiana Gulf Coast, the three-weeks' withdrawal this year was about the same as that last year.

During the week ended June 14, gasoline stocks in the East reduced 260,000 barrels, as compared with a decrease of 231,000 barrels in the like week last year. Meanwhile, there was a 462,000-barrel piling up of gasoline on the Texas Gulf Coast, in contrast with a 428,000-barrel withdrawal last year. On the Louisiana Gulf Coast, stocks came down 68,000 barrels, compared with 155,000 barrels in the comparable week last year.

For the United States, there was in the week ended June 14 a decrease of 44,000 barrels in gasoline stocks, a subnormal decline. Having totaled 92,478,000 barrels at the close of the period, the inventory was 5,200,000 barrels (5.3 percent) smaller than a year previously. But aviation gasoline now constitutes a greater part of the total by 2,000,000

U. S. Crude Oil Production Rises; Kansas at New High

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (June)	State Allowable (Barrels Daily in June)	BARRELS DAILY FOR WEEK ENDED June 14	June 21
TEXAS—				
Texas Panhandle	.....	.....	74,500	80,800
North Texas	.....	.....	99,800	101,700
West Central Texas	.....	.....	30,300	31,400
West Texas	.....	.....	262,200	263,600
East Central Texas	.....	.....	79,800	81,200
East Texas Field	.....	.....	373,200	372,900
South Texas	.....	.....	211,300	212,300
Texas Gulf Coast	.....	.....	276,500	281,500
Total Texas	1,371,700	1,352,280*	1,407,600	1,425,400
CALIFORNIA—				
Long Beach	.....	.....	41,900	41,700
Midway-Sunset	.....	.....	54,500	44,400
Kettleman Hills	.....	.....	38,400	38,600
Wilmington	.....	.....	84,500	83,700
Others	.....	.....	431,500	435,100
Total California	615,300	575,000†	650,800	643,500
OKLAHOMA—				
Oklahoma City	.....	.....	81,650	82,250
Seminole Area	.....	.....	111,600	110,850
Others	.....	.....	222,300	221,025
Total Oklahoma	459,700	415,000	415,550	414,125
ILLINOIS—				
Salem	.....	.....	91,300	90,800
Louden	.....	.....	65,500	62,500
Centralia	.....	.....	11,100	11,700
Other New Pools	.....	.....	168,800	173,400
Old Pools	.....	.....	11,800	11,900
Total Illinois	345,300	.....	348,500	350,300

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (June)	State Allowable (Barrels Daily in June)	BARRELS DAILY FOR WEEK ENDED June 14	June 21
LOUISIANA—				
North Louisiana	.....	.....	74,100	74,300
South Louisiana	.....	.....	248,500	254,500
Total Louisiana	319,700	319,500	322,600	328,800
KANSAS	220,400	232,400	218,550	231,450
NEW MEXICO	113,000	113,000	113,100	112,000
EASTERN STATES—				
Pennsylvania Grade	48,000	.....	71,600	72,500
Others, Eastern	52,300	.....	18,600	18,600
Total Eastern States	100,300	.....	90,200	91,100
MOUNTAIN STATES—				
Wyoming	89,300	.....	86,700	85,400
Montana	19,700	.....	19,000	19,200
Colorado	5,000	.....	3,900	3,900
Total Mountain States	114,000	.....	109,600	108,500
MICHIGAN	38,000	37,500‡	37,800	37,800
INDIANA	22,000	.....	21,500	21,000
ARKANSAS	83,000	73,612	73,400	73,100
MISSISSIPPI	23,300	.....	29,800	29,250
NEBRASKA	4,300	.....	4,500	4,450
§Total 8 Prorated States	3,220,800	3,128,292	3,239,400	3,266,175
Total United States	3,830,000	.....	3,843,500	3,870,775

*** Texas Railroad Commission's estimate of actual net daily production, allowing for usual under-production of 3½ percent under net allowable, which at the beginning of June is calculated at 1,411,732 barrels daily. However, allowable normally increases as new wells are completed. Under June order, most Texas fields were ordered shut down June 1, 7, 8, 14, 15, 21, 22, 28 and 30. Panhandle was ordered shut down June 7, 14, 21 and 28.**

† Recommendation of Conservation Committee of California Oil Producers.

‡ Estimate of actual production under prescribed regulations, which do not fix a definite state total allowable.

§ Texas, California, Oklahoma, Louisiana, Kansas, New Mexico, Arkansas, Michigan.

barrels, as compared with a year ago and the present stocks of ordinary gasoline are about 7,000,000 barrels smaller than those held at this time last year.

Heating Oil Stocks

Stocks of gas oil and distillates have been built up on the East Coast only 283,000 barrels in the past three weeks, whereas they were expanded 1,527,000 barrels in the like period last year. In the week ended June 14, East Coast stocks were contra-seasonally reduced 143,000 barrels, and that reduction contrasted with a 709,000-barrel addition during the corresponding week last year.

On the Texas Gulf Coast, heating oils failed to move out in normal volume. In the three weeks ended June 14, there was an accumulation of 883,000 barrels in storage, compared with an increase of 706,000 barrels in the like period last year. In the week ended June 14, stocks increased 490,000 barrels, as compared with a gain of 261,000 barrels in the corresponding week last year. The Louisiana Gulf Coast showed a 56,000-barrel gain in light fuel oil in three weeks, compared with a increase of 234,000 barrels last year; but for the latest week, there was a 70,000-barrel gain as against one of 50,000 barrels a year ago.

Production of heating oil has lagged below last year's rate, and for the country as a whole, stocks have increased only about 2,000,000 barrels in the past three weeks, compared with an expansion of 3,500,000 barrels last year. Present stocks of 35,060,000 barrels (as of June 14) are 4,500,000 barrels (15 percent) larger than those on hand a year ago.

Heavy Fuel Oil

Stocks of residual fuel oil have been cut 358,000 barrels on the East Coast in the past three weeks, whereas they were increased 436,000 barrels in the like period last year. The withdrawal of 469,000 barrels between June 7 and 14 more than cancelled a slight net addition for the two preceding weeks, and it compared with a similar weekly withdrawal of 402,000 barrels last year. On the Texas Gulf Coast, the stocks of heavy fuel increased 380,000 barrels in the past three weeks, as compared with an addition of 138,000 barrels last year. The 59,000-barrel increment between June 7 and June 14, this year, compared with a 433,000-barrel accumulation last year. Stocks on the Louisiana Gulf Coast have increased 86,000 barrels in the past three weeks, or about the same amount as in the like period last year.

Total stocks of residual fuel oil in the United States were reduced about 200,000 barrels in the week ended June 14, in reflection of the large withdrawal on the East Coast, and the remaining inventory of 93,182,000 barrels was 10,500,000 barrels (10 percent) smaller than that held a year previously. However, there has been within the past year, a 12,000,000-barrel withdrawal in California, while east of California there has been a 2,000,000-barrel increase.

Crude Oil Stocks

Failure of crude oil to move toward ultimate consumption in normal volume is indicated in Bureau of Mines weekly figures on crude stocks. In the two weeks ended June 7, stocks of refinable crude in the United States were reduced 620,000 barrels. But there was not a uniform draft on stocks of the various grades. There were heavy drafts on stocks of Illinois-Indiana and Oklahoma-Kansas crudes; and Eastern refineries drew heavily on stocks of foreign crude. California refiners also took crude from storage in relatively large volume. But in contrast with the above withdrawals, Texas crudes accumulated in storage. Between May 24 and June 7, stocks of Texas crude were increased 986,000 barrels. Storage of East Texas crude was increased 273,000 barrels in the two weeks, and there were accumulations of 25,000 barrels of West Texas crude, 461,000 barrels of Texas Gulf Coast crude, and 227,000 barrels of other Texas crudes.

Refinery Runs Reduced

After having hit an all-time high of 3,880,000 barrels daily in the previous week, refinery runs in the United States were curtailed to 3,755,000 barrels daily in the week ended June 14, although it was not immediately evident whether or not the curtailment reflected any difficulty in obtaining enough crude to keep plants operating at the higher rates.

Of the 125,000-barrel reduction in runs, the East Coast refineries accounted for 42,000 barrels, while the Indiana-Illinois-Kentucky area cut back 32,000 barrels. Other important reductions included 29,000 barrels in California, 16,000 barrels on the Louisiana Gulf Coast, and 18,000 barrels in North Louisiana-Arkansas. Runs were slightly increased, on the other hand, in Inland Texas, on the Texas Gulf Coast, and in the Rocky Mountain region.

The East Coast plants operated for the week at 86.8 percent of capacity, whereas they had run at 93.3 percent of capacity the previous week. The Illinois-Indiana-Kentucky refineries were slowed to 91.9 percent of capacity from 96.7 the week before. Oklahoma-Kansas-Missouri plants continued to operate around 96 percent of capacity. Those on the Texas Gulf Coast continued to run at about 95 percent, but on the Louisiana Gulf Coast, operations dropped to 80.6 percent from 90.6.

California Operators Receive Questionnaires for OPACS

Detailed questionnaires designed to develop the per barrel cost of producing oil in California have been mailed out to the more than 800 individual oil producing companies in the state by Oil Producers Agency. The questionnaires, modeled after the ones used by the federal government in a similar survey several years ago, were prepared by a committee of three independent oil company accountants and an independent oil company attorney.

Purpose of the questionnaire is to furnish additional data requested by Leon Henderson, chief of the Office of Price Administration and Civilian Supply, in a telegram sent to California operators advising them of postponement of the effective date of a request to restore California oil and gasoline price levels to those prevailing prior to May 23, the date of the last increase.

Pipe Lines

Pipe Ordered for Products Line in Southeastern States

Plans for construction of a 1261-mile common carrier pipe line running from Baton Rouge, Louisiana, to Greensboro, North Carolina, to deliver gasoline, kerosene, heating oil and tractor fuels to seven southeastern states, are being rushed by Plantation Pipe Line Company in anticipation of passage of the Cole pipe line bill now in Congress. Orders have been placed for 123,000 tons of steel pipe, and the engineering contract has been let. An office for purchase of rights of way has been opened in Meridian, Mississippi, and additional offices will be opened shortly. Pipe delivery is expected to start in July, and to be completed in October.

Held up for more than a year by inability to obtain crossing rights from railroads, the line can be completed within seven to eight months after materials have been received and right of eminent domain is authorized by the Cole bill.

Originally planned for a delivery capacity of 33,000 barrels daily, the line has undergone upward revision to 60,000 barrels. By adding additional pumping stations, the capacity of the line could be raised to 90,000 barrels daily.

The line on leaving Louisiana will pass through Mississippi, Alabama, Georgia, South Carolina and North Carolina. A branch line will reach into Tennessee to make deliveries at Chattanooga and Knoxville. Deliveries in Mississippi will be made at Meridian. In Alabama, deliveries from the main line will be at Moundville and Oxford, and by branch line at Birmingham and Montgomery. In Georgia, products will be taken from the main line at Bremen, Atlanta and Athens, while Columbus and Macon will be served by branch lines. Terminals in South Carolina will be Belton and Spartanburg, and in North Caroline they will be Greensboro, Charlotte and Salisbury. The area to be served normally receives 89 percent of its petroleum products in whole or in part by tankers moving from the Gulf Coast to the Atlantic seaboard, nearly half of which could be supplied by the line. On completion, the new line will supplant 10 to 15 tankers, and therefore is important in the impending East Coast petroleum supply shortage created by diversion of tankers to Britain.

The Plantation Company is jointly owned by Standard Oil Company (Kentucky), Shell Union Oil Corporation, and Standard Oil Company (New Jersey). Officers of the company are C. R. Younts, president; N. J. McGaw, vice president; F. E. Watterfield, Jr., vice president; D. F. Cocks, secretary and treasurer, and S. V. Kane, assistant secretary and assistant treasurer.

Confer on 1600-Mile Gulf-East Coast Gasoline Line

Conferences have been underway regarding immediate construction of a 1600-odd mile 16-inch welded gasoline line from the Houston-Beaumont-Port Arthur territory to the Philadelphia-New York vicinity. The line would have a rated capacity of 100,000 barrels daily.

The project rests upon early passage of the Cole pipe-line right-of-way bill now before Congress, as provisions of this bill are needed to procure right-of-way without long delays.

It is understood that Standard Oil Company (New Jersey), The Texas Corporation, Sun Oil Company, The Pure Oil

Company, The Atlantic Refining Company, Sinclair Refining Company and Socony-Vacuum Oil Company are included in the group studying the possibility of constructing such a cooperatively-owned system.

Unverified reports are that The Texas Pipe Line Company has been nominated as the unit that will provide the directing organization for the construction and operation of the carrier, with a separate company being formed along the pattern of The Texas New Mexico Pipe Line Company and The Texas-Empire Pipe Line Company.

It is said that sufficient pipe for construction of the line can be had, but that machinery for pump stations is somewhat of a problem. The latter problem may be solved by getting away from standardization of equipment.

World-Wide Developments

L. A. Villamizar Receives Columbian 56,500-Acre Grant

Grant of a concession of 56,500 acres in Colombia has been obtained by L. A. Villamizar, according to the Diario Oficial. The tract is north of and adjoining the concession of Magdalena River Valley Petroleum Company and fronts the west bank of the Magdalena river.

Socony-Vacuum Oil Company's affiliate, Magdalena River Valley Petroleum Company, was drilling Cimitarra 1, wildcat near Puerto Wilches, below 1414 feet two weeks ago.

Further information indicating progress in Richmond Petroleum Company's program of several shallow tests in Colombia was received last week. Tentative location for the first well is 8½ miles northwest of San Pablo. Most of the region surrounding the camp is jungle, and roads are being cleared and preparations made for construction of a bridge. A clearing has been made for the terminal camp on the Magdalena River. A storehouse and a materials yard are completed. Personnel on the ground includes P. B. Reed, who is in charge of operations, and several American operators and mechanics.

Tropical Oil Company's Cimitarra 1, wildcat on Magdalena River front at Barranca Bermeja, was drilling below 4550 feet with no shows reported.

Colombian sources report organization of three new oil companies, Compania de Petroleo Gran Colombia, Compania de Petroleo el Meta and Compania Colombiana de Petroleo Sierra Nevada. Americans and Colombians are on the boards of these companies, in which Standard Oil Company of California is interested.

Colombian Suit Involves Concession Expiration Date

The Colombian government, through its attorney general, has brought suit in the Colombia supreme court to set June 14, 1946, as expiration date for Tropical Oil Company's De Mares concession. In its brief, the government asks that all machinery and tools revert to the country on that date, along with the oil property. The company contends the expiration date is August 25, 1951.

The controversy revolves around conflict over dates arising from the fact that Tropical obtained the concession from Roberto De Mares, previous concession holder, in August, 1919. In June, 1921, the minister of public works fixed August 25, 1921, as the date on which exploitation began. Basing its contentions on terms in the original agreement with De Mares, the government argues expiration occurs in 1946.

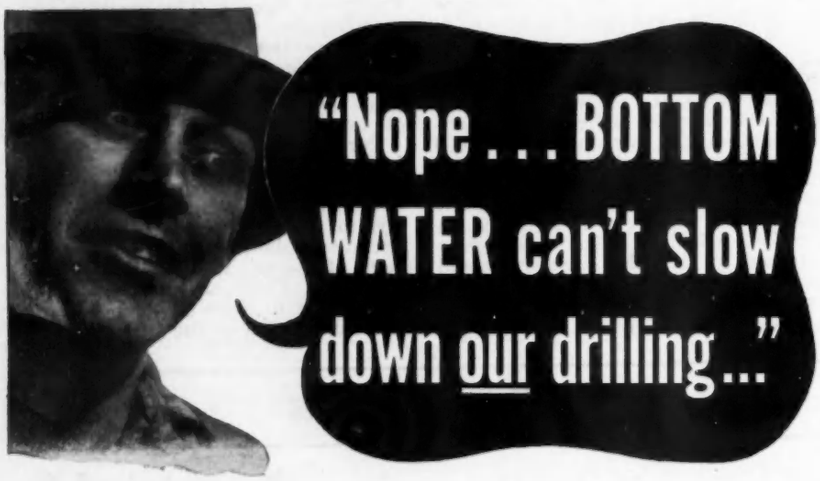
The concession has been producing about 21,000,000 barrels yearly. In April, crude production from La Cira and Infantas fields on the concession was 1,098,368 and 304,162 barrels, respectively. Three rigs were operating.

Chile Proceeds With Exploration Activity

Although handicapped by scanty appropriations, the Chilean government is making geological explorations on Riesco Island, in the Patos River vicinity, and on Pecket Harbor farm, in Brunswick peninsula. An anticline has been found on Riesco Island in drilling about 500 feet.

Venezuelan Drilling Progress

Socony-Vacuum Oil Company has been coring Anaco 1 and Hamaca 1, eastern Venezuela wildcats, at below 10,840 and 3,120 feet, respectively. In the Guario field, San Joaquin area, the company was below 8844 and 6100 feet in Guario 3 and Guario 4.



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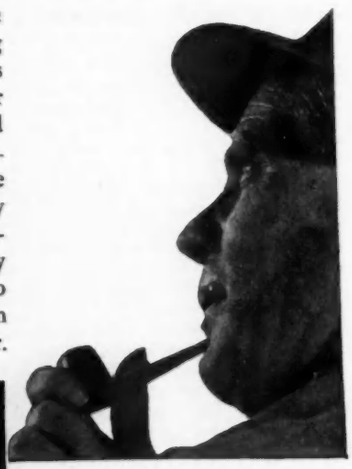

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Eagle Outlasta — for medium speed and pressure conditions

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U. S. FIELD OPERATIONS

Oklahoma

Wilcox Sand Indicates New Noble County Pool

Noble County test promised a new Wilcox pool, while an outpost to Okfuskee County's Dill pool improved outlook for area.

Wilcox Pool: Superior Oil Corp.'s Faubion 1, SW SW SE 16-22-1e, Noble County, near Otoe City field; second Wilcox 4728 ft, bottomed 4923 ft. After 10 shots of perforating job, began flowing high-gravity crude, 4727-31½ ft; flow was killed 1000 gals water; tankage to be erected.

Okfuskee County: Portable Drilling Co. and KGFF's Replogle 1, NE SE SE 1-11-8e, east Dill production, perforated 3970-82 ft in Hunton, 1000 gallons acid, bottomed 4148 ft in Simpson, 10 bbls hour, 7/32-in choke; betters outlook east side Dill field. Texas Co.'s McKernan 1, CW½ NW SW 15-12-9e, second well small field, 147 bbls, 6.5 million ft gas, Cromwell 3304 ft.

Pottawatomie County: G. W. Garr's Walker 1, NW SW SE 9-5n-5e, north Beebe production, Hunton 2214 ft, Sylvan 2533 ft, 7-day test averaged 1785 bbls daily, natural. C. W. Sharp et al's Billington 1, NW SE SE 21-9-4e, east Tecumseh, fair show first Wilcox, commercial well doubtful, water forced plug-back. Other field wells declining, going on pump; not favorable, but additional testing planned.

Cromwell: Winona Oil Co.'s Heller 1, wildcat, NEC 25-10-7e, west Cromwell field, Cromwell sand 3556-57 ft, sprayed oil with 8 million ft gas, deepening 3559 ft increased spray and gas to 20 million ft, deepening.

Kansas

Arbuckle Lime Provides Stafford County Oil Field

Stafford County new field; Reno County gets extension try at Abbeyville; shallow northeast area active as drillers seek gas and new activity increases.

Stafford County: Stanolind Oil & Gas Co.'s Ahnert 1, NEc 26-22-13w, 2½ miles south Drach pool, proved Arbuckle productive. Oil 700 ft in hole, Arbuckle 3745-52, production test to be made.

Reno County: Skelly Oil Co.'s Linschied 1, CS½ SE NW 24-24-8w, Abbeyville area, 2000-acre block, equipment moving in Kansas-City Lansing test, Cunningham trend, northeast Lerado, adjacent sandy-lime Abbeyville pool production.

Shallow areas: Jefferson County operators continue shallow-sand gas development. Wells open-flow 5 to 6 million ft maximum, 1450 feet, market available. South of area, new water-flood developments under consideration, special attention given Osawatomie-Rantoul sectors.

Russell County: Show gas and oil H. H. Blair's Foster 1, SE SE 35-15-12w, northwest Beaver production, failed to increase from Kansas City-Lansing, operator deepening to test Arbuckle. Derby Oil Co.'s Gernon 1, wildcat, CW½ SW NE 21-13-15w, show in Topeka, no test, now in Arbuckle.

Smith County: H. H. Blair's Koch 1, northeast Smith Center, 45 miles production, to drill Arbuckle if no shallow production is encountered.

Indiana

Three Wildcat Failures Among Week's Completions

Three wildcats were abandoned, while an offset to Bufkin pool discovery, Posey County, was started.

Wildcat Failures: Ward Wickwire's Davis-Redding 1, SW SE SW 8-2s-12w, Gibson County, 4 miles south Mt. Carmel, dry through McClosky. Abandoned, 2580 ft. L. E. Kennedy and Hayes Drilling Co.'s L. T. Musselman 1, NE Lot 334-1n-12w, Knox County, 4 miles northeast Mt. Carmel, abandoned in St. Louis 2402 ft. Kenneth Yost and Arch Dye's A. Allyn 1, NW SE SW 14-7s-13w, Posey County, 2½ miles southeast Mt. Vernon, elevation 355 ft, Menard 1810 ft, Waltersburg 2177 ft, Cypress 2390 ft, Ste. Genevieve 2620 ft, St. Louis 2772 ft. abandoned 2780 ft.

Bufkin Pool: Gulf Refining Co.'s William Fred Schreiber 2, NE SE 23-6s-13w, west offset to discovery, drilling below surface casing.

Wildcat Gets Uncommercial Shows in Pennsylvanian

Sun Oil Co.'s and Kentucky Natural Gas Co.'s J. T. Blue 1, Union County, Kentucky, ¾ mile northeast Boxville, slight oil show Pennsylvanian, drilling 700 ft, Basin Drilling Co. contractor.

Walter Sargent's E. E. Maynard 1, NW NW 18-N-25, 3 miles east Sebree, drilling 550 ft.

Nebraska

Falls City Recompletion Increases in Production

Flood waters hit Richardson County, slowing operations; wildcats failed to show, but pool well recompleted in lower Hunton lime section for increased production.

Falls City Pool: Ohio Oil Co. deepened Sibbernsen 4, NW NW 20-1-16e, deeper Hunton, indefinite test showed increase. Company's Bahr 4, C NE SW 7-1-16e, northwest extension test, completed Hunton 400 bbls 2290 ft.

Scattered Tests: Black Gold's Clara Bahr 1, C NE NE 36-3-15e, Shubert field, rigging standard tools to complete, and Garetson's Parsons 2, C NW SW 30-3-16e, drilling 2510 ft, top Mississippi 9 ft higher than producer location south.

North Texas

Mississippian Production In New Young County Sector

Production from Mississippian uncovered in new sector of northern Young County, and promises important extension for nearby Burns-Larimore pool. Unusually large quota of locations authorized shallow and deep projects in North Texas, with Wichita County setting pace. Operators launched campaign to induce crude buyers to raise top posting on regular Mid-Continent grade to equal level Oklahoma and East Texas.

Young County: Thos. D. Humphrey et al's Williamson 1, SE NE TE&L Section 601, 2½ miles southwest Jean and ⅝-mile southeast 2900-ft producer, proved Mississippian, topped at 4980 ft, for oil production in flowing 35 bbls oil 25 minutes after recovering oil load in treating with 2000 gals acid through perforations 4983-5009 and 5015-33 ft. Water showing, and some lower perforations due to be squeezed. Hole plugged back to cement 5½-in at 5084 ft after finding dry Ellenberger 5165-5246 ft. Owner has total 2000 acres under lease.

Young County wildcats: L. T. Burns et al's Dahse 1, northwest part county, abandoned 5163 ft, logged top Bend 4494 ft and Mississippi 5060 ft. Failed encounter deep shows passed up by 5090-ft dry hole, ⅝-mile to northwest. F. H. E. Oil Co.-Fleming-Kimbell Corporation's Graham 1, SWc NE TE&L Section 2912, recovered 4 joints oil-cut mud in Strawn 3860 ft, and 140 ft oil-cut mud in Bend 3973 ft; drilling 4200 ft.

Clay County: Shell Oil Co.'s Anderson 1, east offset its Coleman 1-A, prolific Mississippian discovery at 6158-6282 ft, topped Bend 5852 ft, 20 ft low, drilling 5950 ft. Superior Oil Co. starting Seigler-Shell 1, 12 miles south by west above pool, projected Ordovician on Shell's geophysical prospect. L. T. Burns et al's Wynn 1, 4½ miles southeast Burns-Browning pool, abandoned 5202 ft June, 1939, to deepen to 6200 ft in try for Mississippian production. Shell's Scaling 1, 4¼ miles south Burns-Browning pool, abandoned 1939 in dry Bend 5391-5436 ft, to be deepened to Ordovician.

Montague County: Larry Hults and Tom Owens' Summers 1, north offset their Bend discovery west part county, flowed salt water with only trace oil and gas when tested 7239 ft, possibly in Ellenberger, 7-in at 7213 ft. Plugged back 6304 ft renew test of Bend topped 6040 ft, if noncommercial will try Strawn shows near 4200 and 4600 ft. Shell's Thomas 1, Block 95, Kaufman CSL, 4½ miles southeast Spanish Fort, late wildcat authorization northeast of granite ridge.

Cooke County: Sinclair Prairie's Atlas Life 1, 3600 ft north of northeast edge of Walnut Bend field production, extremely low structurally, topping Simpson 5419 ft and Ellenberger 5641 ft; drill-stem test at 5641-47 ft yielded 50 ft mud, drilling 5667 ft. Com-

pany's Marshall 1, 1¼ miles northwest production, yielded 1125 ft salt water 4798-4808 ft, drilling 4943 ft. Sinclair Prairie's Danglemayer 1, south edge Bindel 2-pay pool, dry regular pay 1898-1908 ft, drilling 2580 ft with Ellenberger as objective. Harvey Drilling Co.'s Ware 1, wildcat 2½ miles northeast Anderson-Kerr pool, logged promising oil saturation in drilling to 2230 ft, drill stem test pending.

K-M-A Ellenberger: Buffalo Oil Co.'s Ferguson 1-E, SWc Block 9, east edge deep production, flowed 113 bbls oil 3 hours ½-in tubing choke, wash down with 1500 gals acid. Structurally high, top Ellenberger 4212 ft, best saturation 4218-65 ft, bottomed at 4298 ft, cut 9-in hole to bottom for extra drainage prior landing 5½-in 4216 ft. Company's Ferguson 3-E, northeast outpost, entered Ellenberger 4205 ft, flat with above well, and drilled large hole to 4310 ft before landing pipe.

Jack County: Alma Oil Company's Maxey 1, wildcat NWc W½ S. P. Section 2, A-2233, entered Mississippian at 5255 ft, drilling 5380 ft with nominal oil stain 5255-60 and 5300-55 ft.

Price equalization: North Texas operators established temporary committee to exert pressure on major crude purchasers to eliminate 7-cent price penalty as compared to East Texas and Oklahoma schedules. Contention is that greater portion North Texas sweet crude moving north in direct competition upper-Mid-Continent oil, while growing volume East Texas oil routed through North Texas. Committeemen opened drive by calling on officials of crude buying companies the past week.

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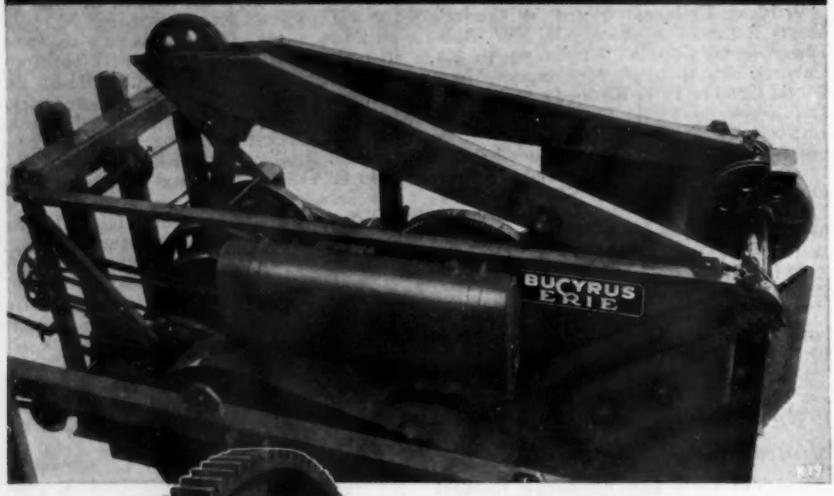

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West Texas

Disappointing Results in West Texas Reports

Prospective wildcat strike for western Terry County yields water on preliminary test; Abell deep pool, Pecos County, records outpost failure; and first Ellenberger test for Wasson field proves disappointing. Further proof given that granite plateau separates West Texas and Panhandle districts.

Terry County: Texas Co.'s Murphy 1, C NW NW PSL Section 22, Block K, continues to show small volume salt water following 2000-gallon acid treatment broken saturation 5166-5275 ft. Trace of oil and gas before and after acidizing. Hole to be deepened, as no sulphur water encountered.

Abell: Sinclair Prairie's Grove 1, 1⅜ miles east by north of discovery, abandoned 6338 ft in Ellenberger topped 6252 ft, elevation 2392 ft. Abnormally low on structure, although updip, and possibly due to local faulting. Magnolia's McKee 1, east offset most easterly producer, recovered 210 ft oil-cut mud on drill-stem test 5918-40 ft, and resumed coring. This outpost is in faulted zone, tested wet gas in regular McKee (Simpson) 4069-75 ft, elevation 2390 ft, followed by stray water at 4988-5000 ft. Ellenberger topped 5808 ft, being highest on this marker out of 6 tests to dolomite. Company's Gerety 1, northwest outpost, coring dry dolomite 6260 ft in Ellenberger topped 6088 ft, and Baldwin-State 2 testing plugged-back depth 5745 ft from dry Ellenberger 6116-47 ft. Magnolia and Stanolind's McKee-Tex-Mex 2, plugged back from dolomite 6118 ft and 5258 ft, having yielded gas in drilling McKee sand 5239-85 ft.

Granite: Humble, Stanolind and Standard of Texas' Byrd 1, C SE NE T. T. Ry. Section 17, Block K, southeastern Hale County wildcat, confirmed presence of granite plateau that extends east-west across north portion West Texas Permian Basin in entering igneous rock at 6745 ft, or 3494 ft sub sea. Drilling halted at 6760 ft. It is 80 miles east by north Humble's Westheimer-Daube 1, northwestern Cochran County wildcat failure that entered broken granite 7356 ft, or 3494 ft sub sea, and quit at 7414 ft. Coincident that both found granite identical sub sea depth. Byrd 1 confirms presence broad plateau of granite, originating Roosevelt County, N. M., and also pegged in northwestern Garza County.

Flanks of the granite plateau offer possibilities deep production, with additional prospecting due shortly. Byrd 1 recorded unusual structure uplift, logging anhydrite 1115 ft; salt series 1180-1370 ft; Yates sand 1460 ft; San Andres between 2230-50 ft; San Angelo 3470 ft, with Mississippian topped 6605 ft, overlying granite.

Wasson deep: Amon G. Carter's Wasson 4-D, Gaines County sector of field, encountered water when tested in Ellenberger 11,108 ft, with 5½-inch cemented 10,615 ft. Pipe landed higher than planned due to freezing in narrow annular space. Will plug back near 10,700-ft to test Devonian saturation topped 9980 ft with elevation 3564 ft, if dry will perforate opposite Permian saturation near 7100-ft and 6600-ft levels.

Deep wildcat projects: Phillips Petro-

leum Co.'s University-Andrews 1, northeast Embar gas pool, drilling lime 8380 ft. Magnolia's Ralph 1, western Andrews County, sulphur water 4854-4997 ft, drilling 5110 ft. Amerada Petroleum Corp.'s University 1-RA, southeastern Reagan County, drilling 7350 ft. All have Ordovician as objective.

West Central Texas

Taylor County Wildcat To Make Oil Producer

Northwestern Taylor County has prospective wildcat oil producer awaiting completion test, and new gas pool opened in northeastern Brown County.

Taylor County: W. H. Peckham et al's Perry-F. & M. Bank 1, NWc Block 5, Grimes CSL, League 124, 4 miles south by west of Stith pool, nearest production, filled with oil rate 4 bbls hour, sandy-lime 2013-19 ft, elevation 1795 ft; 8-in cemented top pay. Lewis Production Co.'s Henslee 1, ½-mile southeast, oil shows 2035-40 and 2479-84 ft and abandoned hfw 2715-17 ft July, 1938. Latter starting Henslee 2 about 2000 ft east of old failure.

Brown County: Guyle Greynolds et al's Crownover 1, SEc BBB&C Section 26, Block 3, northeast part county, used 4000 gals acid broken pay 2897-2946 ft, plugged back from 2955 ft, 4,070,000 ft dry gas initial.

Jones County: W. D. Brookover and H. W. Lee's Church 1, second producer for Wimberly pool, flowed oil and little water by heads after drilling plugs from 7-in at 2427 ft, and will pump. Production from sandy-lime 2425-46 ft. Discovery showed for small producer 2216-33 ft, but completed in Gunsight 2538-52 ft.

East Texas

Willow Springs Has First Oil from Lower Trinity

First Lower Trinity oil production in Willow Springs gas-distillate field, Gregg County, revealed by two wells; Hawkins field expanded east of Gas Cap, also ½-mile south of townsite.

Willow Springs: Humble Oil & Refin-Co. and Gulf Oil Corp's Horton Dickson 2, H. Frost Survey and west side structure flowed 83 barrels 38.6-gr oil 4 2/3 hours, 1-inch choke, after being shut in sance last January; Production Pettit perforations 7255-70 ft originally rated 22,000,000 ft gas with oil spray, open flow test following two-stage treatment 10,000 gallons acid; tankage set up to resume oil test. Roger Lacy et al's Horton-Dickson 1, Meredith Survey, flowed 64 barrels fluid testing 15 percent salt water daily through 22/64-inch choke, open-flow gas rated 2,000,000 ft daily; acid through perforations in Pettit 7132-7296 ft, topped 7126 ft, elevation 268 ft; will cement lower perforations to exclude water. Union Producing Company's Hays-Magnolia 2, M. Mann Survey, Massive Anhydrite 6236-6508 ft, running pipe, hole bottomed top Travis Peak 7400 ft.

Hawkins: Humble's Parrish 1, southeast corner 134½-acre lease, H. E. Watson Survey, advanced production east gas cap, flowing 359 bbls 26.8-gr oil 18 hours ¼-inch choke, Woodbine perforations 4562-71 ft, elevation 363 ft. Company's Green 1-B, south offset to above, testing through perforations 4520-30 ft, bottomed 4664 ft. Production advanced ½-mile south townsite by Humble's Price 1, southwest corner 116-acre lease Geo. Brewer Survey, 67½ bbls 27-gr oil 6 hours, ¼-inch choke, perforations 4744-57 ft; three oil zones logged, upper pay 4658-68 ft, elevation 368 ft. These extensions prove scores of locations for Humble.

Panola County: John G. Mayo's Frost 1, Kelly Survey, first of operators 3-well program, drilling 3215 ft; Sun Oil Co. and Shell Oil Co. interested. Midstates Oil Corp's Roquemore 1-A, Adams Survey, projected 6500 ft.

Southwest Texas

Wilcox Pool Shows in Live Oak County

Testing an apparent Wilcox discovery highlighted Southwest Texas activity. Extensions to Coastal fields and a materially increased drilling program brought activity to one of the highest points in months.

Wilcox Trend: Edwin M. Jones' George West Estate B-3, Sec 56, Nelson Owen survey, 4 miles southwest George West, Live Oak County, several Wilcox zone sands with high-grav-

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ity oil or distillate showings set 5½-in casing 7933 ft; to test via perforations; third wildcat by operator to Wilcox in block.

Union Oil Co. of Calif. located Volpe & Benavides 1, Sec 2011, 20 miles north Laredo, Webb County, Wilcox test of highly-regarded structure.

Shell Oil Co. will drill two 10,000-ft or deeper Wilcox wildcats and was awaiting orders on another. Plow Realty Co. 4 is 3700 ft north Sheridan pool, Colorado County; F. W. Neuhaus 1 will be in Ragsdale survey, several miles south Vienna pool, Lavaca County. McManus 1, Brushy Creek prospect, Lavaca County, awaiting orders 9000-ft contract depth.

Hewitt, Dougherty & Ogden's Laura Weiss 1, 4 miles east Tuleta, Bee County, cored Wilcox distillate 9429-45 ft, attempting blowout 9503 ft, awaiting orders.

Lower Gulf Coast: S.E.W. Oil Corp.'s Pfluger 1-B, east Agua Dulce field, Nueces County, to run casing about 7250 ft, tested 60 ft distillate, 380 pounds pressure, short drill-stem test sand 7000 ft; 1225 ft oil 172 pounds pressure 8 minutes 23 ft sand 7200-ft zone. Lower sand apparently new, and may establish crude production 1½ miles east of field, and extend distillate production higher zone ½-mile east.

Five miles east Aransas Pass, in Aransas Bay, Nueces County, Humble Oil & Refining Co.'s Aransas Bay-State 1, salt water perforations 8426-30, 8350-60 and 8220-30 ft, squeezed job for new tests.

J. L. Collins & Co.'s McCrory & Westhoff 1, ½-mile east LaWard field, Jackson County, flowed 486 bbls 24.5-gr oil, ¼-in choke, 580 pounds tubing, 730 pounds casing pressures; gas/oil ratio was 255/1; drilled 5281 ft, perforations 5219-29 ft.

J. A. McCartney's Isham et al 1, between original and west extension areas Premont field, Jim Wells County, 150 bbls 23-gr oil, ¼-in choke, 150 pounds tubing, 640 pounds casing pressure, 24 perforations 3706 ft, provides new deep said.

Magnolia Petroleum Co.'s Seeligson Unit 3, 1½ miles southwest Seelig field, Jim Wells County, abandoned 6500 ft. C. M. Laughlin 1, Section 68, northeast discovery, drilling 6020 ft.

F. M. Boynkin, Jr.'s A. W. Scrivener 1, mile west Midway field, San Patricio County, oil, salt water perforations 6507-10 and 6495-96 ft, to test higher, attempting field extension and new sand.

Wellington Oil Co.'s Welder 1-C, mile southwest Odem field, water perforations 5430-36 ft, squeezed distillate 6715-20 ft.

Rincon District: Continental Oil Co.'s Slick 51-B, 1¼ miles southwest Rincon field, Starr County, widened pool, flowed 52 barrels 3/16-in choke, 1425 pounds tubing, 1550 pounds casing pressures; perforations 4036-46 ft, 60 shots.

Laredo District: Hiawatha Oil & Gas Co.'s Frank Vaello 1, mile northeast east edge North Sweden field, Duval County, unsuccessful test perforations 4882-92 ft, Woodley sand, squeezed.

Balcones Fault Zone: Nienaber et al's Eiband 1, Seal survey, seeking pool mile west Luling, Caldwell County, topped chalk 2238 ft, drilled 2279 ft, acidized, showed small amount oil, shut down for orders.

Texas Gulf Coast

Brazoria Wildcat Testing Show for Oil Production

A Brazoria County wildcat was making production test; Clodine discovery, Fort Bend County, was recompleting after shutting off water, and a Red Fish Reef test was cleaning up after blowing out from a shallow sand.

Brazoria County: H. E. Williams and John G. Mayo's Montrose Realty 1, North Lockridge, 810 ft oil 5-minute drill-stem test; sand 6335-42 ft; casing set 6333 ft.

Fort Bend County: Providence Oil Co.'s Hatfield 1, Clodine discovery, squeezed to shut off water, recompleting 7499-7502 ft. Providence's Settegast 1, Joel McCrary survey, 3 miles west Hatfield 1, moving in rig.

Chambers County: Gulf Oil Corp's State 2-R, Red Fish Reef, blew out 4978 ft, destroying derrick, little damage to rig; bridged; cleaning up to deepen.

H. E. Williams' wildcat, Winnie prospect, drilling 5000 ft.

Deep Tests: Gulf's Wing 48, Segno field, coring sand, shale 10,203 ft; 1000 ft deeper than field's previous deepest, later plugged back 6100 ft for completion.

Republic and Houston Oil Co.'s Hurd Fee 52, shut down 9550 ft, 2000 ft below regular Wilcox pay for Joe's Lake field, Tyler County.

Saxet Field Rule

The Texas Railroad Commission has issued a new order governing production from wells drilled to the 7500-foot sand in the Saxet field, Nueces County. Wells are to be spaced 467 feet from lease lines and 1320 feet apart on 40-acre units. The allowable is to be assigned on acreage and per-well, with 50 percent allocated on each factor.

Louisiana Gulf Coast

St. Mary Parish Wildcat Plugs Back for Tests

A St. Mary Parish deep wildcat plugged back for series of tests, while road was building for a Terrebonne Parish test.

St. Mary Parish: Humble Oil & Refining Co.'s deep wildcat, Bayou Sale area, plugged back from 12,487 to 10,062 ft, squeeze jobs for production test.

Terrebonne Parish: Sinclair Prairie Oil Co.'s Alice J. Duplantis 1, Bourg prospect, building board road; 9000 ft northwest Aragon Plantation 1, abandoned 11,632 ft; Dixie Drilling Co., contractor.

Beauregard Parish Wildcats: Humble's Edgewood Land & Logging Co. 1-B, Abbie Joe area, side-wall samples, bottomed 10,701 ft. Atlantic Refining Co.'s Rice Land & Lumber Co. 1, electrolog, bottomed 10,000 ft, below Wilcox.

Scattered Wildcats: H. C. Corkburn et al's Snowden Estate 1, Lake Latainer prospect, Avoyelles Parish, moved in completion equipment, to drill plug

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from 5½-in casing. Pan American Production Co.'s Louisiana Land & Mineral Co. 1, Moss Lake area, Calcasieu Parish, cemented 2975 ft surface casing, projected 10,000 ft or deep enough for sand that blew out in W. T. Burton-Continental Oil Co.'s Mayo 1, 6 miles east.

Mississippi

Contract Let for Wildcat Southern Yazoo County

Yazoo County continued active, with leasing brisk on south fringe of Tinsley Dome, where encouraging extension recently was made, and wildcat tentatively staked in southern part of county.

Yazoo County: C. B. K. Oil Co. tentative location test in SE NW 21-10n-2w, Yazoo County, contract to Red Iron Drilling Co., no depth announced. Midstates Oil Corp. took 6/16-interest in leases south line Sec 31-10n-2w, from W. F. Cummings; recently acquired like interest neighboring leases from Carl Jones.

Stone County: Gulf Oil Corp. assigned 600 acres Danciger Oil & Refineries, Inc., Township 2s-11w condition Danciger sink 8500-ft test starting by July 1; block once explored by Gulf, and twice by Morgan & Borden. Morgan & Borden's last test well showed some encouragement.

Leasing Activity: P. Cochran blocking Township 9n-2e, Jefferson County, thus far one spread 1070 acres, another 1016 acres, 10-year commercials. In Lauderdale County, R. L. Shaddock leased 200 acres from City of Meridian, Township 4n-15e, leases 10-year commercials.

New Mexico

Lea County Wasson Trend Test is Failure

Lea County recorded a wildcat failure drilled on a trend play to the northwest of the Wasson field, Texas, and the Eaves pool accounted for a gasser and oil producer.

Wildcats: Helmerick & Payne's State-Phillips 1, C NW S 2-14s-38e, 7 miles northwest of Wasson, abandoned 5635 ft in San Andres lime topped at 4705 ft, elevation 3816 ft. No water encountered in main lime. Harry Leonard and Van Welch's State 1, C NW NW 18-20s-33e, 3½ miles east Halfway pool, logged base salt 2595 ft, elevation 3523 ft, drilling lime 2870 ft. Fullerton Oil Co.'s State 1, C NE SE 18-16s-33e, 7 miles northeast Maljamar field, logged red sand beds 3582-3605 ft, elevation 4256 ft, drilling 3830 ft. Richmond Drilling Co.'s State-Shell 1, C SW SE 22-17s-33e, between Maljamar and Vacuum, drilling 2790 ft with base salt 2590 ft.

Eaves Field: Stanolind's Farnsworth 7-A rated 29,870,000 ft gas initial from sandy-lime 2975-86 ft. Continental et al's Eaves 2-B-19, C NE NW 19-26s-37e, southeast offset to above, flowed 79 bbls oil, 185 bbls water, natural ½-in choke, pay 3036-40 ft.

Chaves County: L. E. Elliott et al's State 1, C NW NE 16-11s-31e, encountered additional water drilling to 3992 ft with 7-in at 3915 ft.

Rocky Mountain Area

Cole Creek Extended; West Axial Basin Test

Cole Creek field, Wyoming, was promised a ¼-mile extension, while West Axial Basin, Colorado will get a Sundance test.

Cole Creek: General Petroleum Corp.'s 31-27-P, C NE NE NW 27-35n-77w, Natrona County, ¼-mile south production, 5½-in casing top Shannon oil zone 4559 ft, cored through zone 4594 ft, electric log favorable. Came company's 3-16S, NW SW NW 16-35n-77w, ¼-mile north production, 287 ft 8⅝-in surface casing.

West Axial Basin: A. L. Greer was moving rotary for test in C 24-5n-94w, to go to 2000-ft Sundance; 1½ miles northwest Schaffer's Rolapp 1, abandoned 1923 at 2955 ft, water in Dakota, and 3 miles southeast Hogan et al's State 1, NE NE 16-5n-94, abandoned 1212 ft top Morrison, both tests on Gossard Dome super-imposed high on West axial uplift.

Bureau Points to Wyoming For Asphaltic Crude

Increased production of Wyoming black oils, possible without the drilling of new wells, would go far to relieve any bottleneck which may arise in the production of asphaltic materials for the construction and maintenance of highways and landing fields, it was reported last week by the United States Bureau of Mines.

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California

Inglewood and Dominguez Deep Zones Extended

Deep zones were extended at Los Angeles County's Inglewood and Dominguez fields; southeastern flank of Del Valle field defined; West Greeley test shows salt water, and one of state's oldest producing areas slated for deep test.

Los Angeles County: Jefferson Oil Co. completed R. C. Smith 1, extension Sentous deep zone, Inglewood field flowing 2500 bbls 33.3-gr oil, 327-ft sand interval above bottom 8091 ft. Location 1000 ft west Federal-Bush's Smith 1, discovery.

West Dominguez producing area may extend location west by Johnson & Richardson's Clemar 1, outpost, cored 30 ft oil sand 7200-53 ft, running casing. Edgemont Oil Co.'s Edgemont 1, northerly test coring at 7400 ft shale, gray sand, top seventh Callender 37 ft lower than nearby West Dominguez Associates' Gross 1, expected to continue to eighth Callender.

R. E. Havenstrite suspended Lincoln 3, southeasterly outpost Del Valle field, 8000 ft, apparently defined southeasterly flank Del Valle structure, sand body 7265 ft tested wet. Failure may call for abandonment Vasquez 1, short distance south, and Universal Consolidated Oil Co. may abandon in Sec 16-4-17.

Barnsdall Oil Co. was building roads to deep test in Towsley Canyon field, Sec 17-3-16, where shallow sands were developed shortly after discovery of oil at Pico Canyon, oldest California producing field.

Kern County: Superior Oil Co. recovered little oil and salt water in KCL 13, Sec 18-29-25, West Greeley area, at 10,085-110 ft, drilling in sand and shale 10,152 ft.

Michigan

Large Drilling Campaign Expected in Reed City Pool

Biggest drilling campaign in basin since 1939 expected to follow 20-acre spacing recommendation of Michigan Oil Advisory Board for Osceola County's Reed City pool, as deepening old discovery established 65- to 150-barrel hour natural production on 3600-ft wells ½-mile apart. Twenty-acre chosen over 10-acre pattern to conserve materials in line with administration defense recommendations.

First proration order since 1939 issued for Reed City, limiting wells to 480 barrels daily. Pool numbers three wells capable of 1300 to 3500 barrels each.

Reed City Pool: Weber Oil Co.'s Gable 1, NE NE SW 31-18n-10w, field discovery completed October 28, 1940, 3631 (corrected) ft 30 barrels day after acid, deepened to 3642 ft, developing to 85 bbls hour, 1578 bbls choked first 24 hours, Monroe dolomite topped 3622 ft, elevation 1162 ft. Well is ½-mile due south two 660-ft offset producers making 89 to 129 bbls hour semi-choked from same horizon. Four new wells drilling with 10 to 15 locations awaiting approval 10- or 20-acre spacing units. State hearing was postponed to await voluntary agreement between operators. Dealing shot royalty to $500 acre on offset to producing properties; lease deals calling for $5000 cash, $5000 oil, plus ⅛ overriding royalty on 40-acre lease mile from production. Pure Oil Co., Leonard and Simrall put in gathering systems with short lines to nearby rail loading points for emergency outlets. Supply stores have leased sites for warehouses and offices. Gordon Oil Co. loaded its rotary out of Illinois for Reed City.

Deep Well: Gulf Refining Co.'s Bateson 1, Sec 2-14n-4e, Bay County, state's deepest test recently cemented 8274 ft with 7-in casing set top Niagara, recemented 5200 ft with 150 sacks through perforated section where gas and water have been breaking through. Bottom cement plug, where 1500 sacks were run, so far not drilled out.

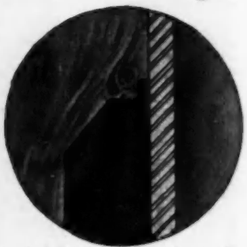
Southwest Area: Gentry Engineering Co.'s Brown 1, NE SW NE 20-1n-13w, Trowbridge township, Allegan County, initialed 35 bbls day Traverse lime 1335 ft, opening 200-300 acres for development. Regal Dutch Petroleum Co.'s Heasley 2, Sec 21-4n-13w, first Trenton test in Salem shallow pool, cleaning out 3620 ft after cementing cave that trapped cable tools; Trenton logged 3725 ft, and hole carried 3792 ft.

Francitas Repressuring Approved

A permit has been granted to the Francitas Gas Company by the Texas Railroad Commission allowing it to conduct a repressuring operation in the Francitas field, Jackson County.

Lip Service for Drill Pipe

Patterson-Ballagh now makes available an improved line of Drill Pipe and Casing Protectors. Tight-gripping annular lips are provided at both ends of the Protector. By adding lips, "ringing" or grooving of drill pipe is eliminated. Swirling action of the mud takes place at the bottom of the lip on the rubber instead of in the corner of the pipe. These extended lips are molded as an integral part of the rubber. They give the Protectors more streamlining. The lips form a sealing ring which prevents mud from getting behind the Protectors. Extension of the lips at top and bottom adds approximately 15% more contact area and more grip.



Swirling action of mud does not concentrate on drill pipe. The lip of the Protector eliminates abrupt ell and the swirling occurs on the rubber which effectively resists abrasion.

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UNITED STATES WELL COMPLETIONS

Arkansas

Company, Well and Location	Init. Prod. Bbls.	Depth
Magnolia County (Dorcheat)—		
Southwood Oil Co., Hunt 1, 13-18-22	200	8923
C. H. Murphy, Barton 1, 14-18-22	120	9015

California

Company, Well and Location	Init. Prod. Bbls.	Depth
Fresno County (Northeast Coalinga)—		
Texas, Gran 1	No Test	8240
Fresno County (Coalinga Eocene)—		
Robert S. Lytle, No. 77-7F.....	1944	8208
Standard, 78-13C	4034	7791
Kern County (Devils Den)—		
Raymond D. Herzog, McKay 1....	10	451
Kern County (Coles Levee)—		
Ohio, KCL F-15, 23-11.....	199	9850
Richfield, KCL-A 85-29.....	1242	9285
Kern County (Edison)—		
Kern Valley Dr. Co., Williams 1..	•	1106
Kern County (McKittrick)—		
Otis, Hoyt, Union 1.....	75	2526
Kern County (Midway-Sunset)—		
Tide Water, No. American 5..No Est.		1200
Kern County (Mt. Poeso)—		
General Pet., Heisen 18.....	173	1859
Shell, Vedder-Rall 14.....	274	1997
Security 27	219	2000
Kern County (Reef Ridge)—		
Blair Oil Co., Blair 1	•	985
Kern County (Rio Bravo)—		
Superior, Curtis 4 1645		11,446
Kern County (Round Mountain)—		
Trico O. & G. Co., Coffee 8.....	245	1460
Los Angeles County (Redondo)—		
Wood-Callahan Oil Corp., Dominguez Est. 1	120	3730
Los Angeles County (Dominguez)—		
Crawford-Hiles & Asso., No. 1....1250		7224
Shell, Reyes 116	333	4225
Union, Austin 10.....1425		7213
Los Angeles County (Long Beach)—		
Dumm Bros. Pet. Corp., No. 11..	125	5052
Los Angeles County (Wilmington)—		
Richfield, Victory 1.....	94	3456
Union Pacific, No. 38.....	147	3375
No. 187	548	2770
No. E-34	300	3515
Wilton Oil Co., No. 12.....No Est.		3712
Santa Barbara County (Santa Maria Valley)—		
Signal O. & G., Yelkin 7.....	210	5085
Union, Stinson 3.....	59	5225

*Failures; †Junked; ¶Million cu. ft. gas.

Illinois

Company, Well and Location	Init. Prod. Bbls.	Depth
Christian County—		
Olson Dr. Tex 1, sw ne 24-12n-1w	•	2717
Clay County—		
Shulman Bros., Calclasure 1-A, w½ sw sw 10-3n-7e	26	2619
Robinson et al, Tolliver 1, sw nw se 26-4n-7e	254	2327
Clinton County—		
B. E. Martin, Heinzman 1, se se se 4-2n-1w	•	1434
Adams O. & G. Co., Copple 31, se ne sw 35-2n-1w	31	1367
Gulf, Stanton 6, sw ne nw 26-1s-1w	110	1557
Crawford County—		
Page et al, Bennyhill, ne ne nw 9-6n-13w	90	2976
Edwards County—		
Superior, Kiley 1, s½ s½ se 7-2s-11e	311	3162
Fayette County—		
Luttrell et al, Ball 2, nw sw se 16-7n-3e	81	1570
Carter, Block 1, nw ne ne 1-8n-3e	250	1523
Miller 1 sw se se 36-9n-3e	136	1536
Miller 2, ne se se 36-9n-3e.....	24	1553
Magnolia, Buzzard Bros. 9, se sw ne 29-8n-3e	21	1402
Franklin County—		
Bay Oil Co., Sanders 2, w½ nw se se 23-6s-2e	148	2103
Menhall, Tiherend 1, sw se se sw 23-6s-2e	•	2154
Mosley Hrs 1, sw ne ne 26-6s-2e	•	870
Adkins, Orient 1, se sw nw 24-6s-2e	211	2122
C.W.&F. Coal, n½ ne sw se 25-6s-2e	315	2132
Orient (SN) 1, n½ se nw ne 26-6s-2e	38	2197
Orient M-1, ne ne ne 36-6s-2e..	231	2135
Cameron et al, Simpson hrs 1, e½ ne se nw 25-6s-2e	314	2136
Wegener, Chenault 3, sw nw se 25-6s-2e	350	2145
Hammond 2, nw se ne ne 26-6s-2e	415	2128
Shell, C.W.&F. Coal 1, nw ne sw 25-6s-2e	274	2166
C.W.&F. Coal 2, se ne sw 25-6s-2e	450	2160
C.W&F. Coal 5, sw ne nw 36-6s-2e	311	2182
C.W.&F. Coal 6, e½ nw nw 36-6s-2e	563	2181
L. B. Manley, Loger 1, n½ nw ne se 26-6s-2e	175	2166
W. C. McBride, Inc., Minier 3, se ne ne 36-6s-2e	104	2134
Minier 4, sw ne ne 36-6s-2e....	528	2133
W. O. Morgan, Minier 3, se nw ne 36-6s-2e	384	2146
Gallatin County—		
Horn Faulkner, Hughes 1, se nw sw 9-8s-10e	•	2188
Leach & Halbert, Curry 3, sw nw nw 15-8s-10e	300	2070
Phillips, Egyptian T&T 4, se ne ne 16-8s-10e	308	2077
Greene County—		
Scroggins, McVay 1, c sw ne 4-10n-11w	•	595
Hamilton County—		
DeKalb, Schidener 2, sw nw se 27-3s-5e	600	3300
Sinclair Wyoming, Hall 4, se se sw 27-3s-5e	456	3295
Hall 5, ne sw se 27-3s-5e.....	600	3312
Hall 8, nw se se 27-3s-5e.....	360	3330
Paul Jordan, Deerhake 6, nw ne ne 34-3s-5e	240	3338
Ohio, Moore 5, nw se sw 3-6s-6e..	38	3073
Tide Water, Mario 4, se ne se 3-6s-6e	300	3063
Jasper County—		
Pure, McCormick 2, c e½ se se 19-5n-10e 1208		2860
Adams 4, c w½ ne ne 20-5n-10e	107	2835
McClane 2, c w½ se se 8-6n-10e	180	2835
Lawn 1, nw sw nw 9-6n-10e....	224	2840
Lawrence County—		
R. R. Willis, Pinkstaff 1, ne ne se 2-4n-11w	•	1678
Madison County—		
Alch & Carroll, Wrinkle 1, sw ne nw 33-5n-6w	•	1283
Marion County—		
J. Dunbar, Rice et al 1, se nw sw 27-3n-1e	•	1637
Absher & Booth, McMackin 9, c s½ se nw sw	65	2025
Adams O. & G. Co., Pugh 5, nw se ne 29-4n-1e	65	1465
Highland Oil Co., Thalman Est. 5, sw sw nw 35-4n-1e	308	1341
W. O. Allen, French 1, sw sw se 19-4n-3e	•	2262
Richland County—		
Pure, Phillips Consol. 1, e½ se ne 7-4n-10e	54	2930
Saline County—		
Taylor Dr., Porter 1, ne nw se 34-8s-6e	•	2582
Shelby County—		
J. O. Davis, Byland 1, ne ne ne 10-10n-3e	•	1200
St. Clair County—		
C. E. Richardson, Kastner 2, nw se nw 21-1n-10w	4	533

[*Continued on next page*]

Summary of Drilling Operations in the United States, Week Ended June 21, 1941

	WELLS COMPLETED								*PERMITS FOR NEW WELLS				
		New Wells Drilled for Oil and Gas											
	Total for Week	Oil Wells	Gas Wells	Failures	†Miscellaneous	Initial Production	Total 1941	Total this Date 1940	This Week	Total this Month	Total 1941	Total this Date 1940	Year Total 1940
Alabama	.....	....	....	....	....	.....	1	1	....	.....	....	.....	.....
Arkansas	2	2	....	....	....	320	77	93	3	13	82	68	153
California	27	25	....	2	....	14,671	535	533	34	94	521	529	1,042
Colorado	.....	....	....	....	....	.....	8	3	....	.....	....	.....	.....
Illinois	83	68	....	13	2	14,927	1,559	1,791	97	293	2,051	2,107	4,532
Indiana	.....	....	....	....	....	.....	237	197	‡15	15	15	.....	.....
Iowa	.....	....	....	....	....	.....	2	.....	....	.....	.....	.....	.....
Kansas	53	38	2	13	....	46,486	998	884	67	177	1,032	975	2,048
Kentucky	6	3	....	2	1	117	143	136	‡5	5	5	.....	.....
Louisiana	22	13	....	9	....	3,955	651	804	48	111	797	810	1,658
Michigan	13	7	....	6	....	182	374	613	23	53	386	571	1,093
Mississippi	3	2	....	1	....	1,397	86	94	....	.....	....	.....	.....
Missouri*	.....	....	....	....	....	.....	6	5	....	.....	....	8	26
Montana	8	7	....	1	....	778	89	78	....	.....	....	.....	.....
Nebraska*	1	....	....	1	....	.....	40	.....	2	6	40	.....	69
New Mexico	6	2	1	2	1	1,216	157	358	8	23	186	332	559
New York	26	17	....	....	9	111	365	503	....	.....	....	.....	.....
Ohio	26	9	10	4	3	98	744	422	....	.....	....	.....	.....
Oklahoma	37	18	3	10	6	5,600	976	1,062	36	133	944	926	1,888
Pennsylvania	55	37	6	3	9	40	1,101	1,850	....	.....	....	.....	.....
South Dakota	.....	....	....	....	....	.....	....	1	....	.....	....	.....	.....
Tennessee	.....	....	....	....	....	.....	....	8	....	.....	....	.....	.....
Texas	209	153	4	46	6	91,118	4,537	5,119	357	828	5,284	6,030	11,170
Utah	.....	....	....	....	....	.....	.....	1	....	.....	....	.....	.....
West Virginia	7	1	5	....	1	1	313	264	....	.....	....	343	782
Wyoming	4	2	1	1	....	5	•49	68	....	.....	....	1	1
Total this week	588	404	32	114	38	181,022	13,048	14,888	695	1,751	11,351	12,692	25,021
Total last week	623	409	39	144	31	162,476	12,523	14,228	656	1,059	10,656	12,194	25,021
Total this year	13,048	8,336	1,059	2,977	676	3,872,400	....	.....	....	.....	....	.....	.....

* This tabulation includes those states where weekly data are available; figures for Missouri date from August 10, 1940; Nebraska from August 3, 1940.
‡ No data available before June 21, 1941.
† Includes old wells deepend, water-intake, gas input, and salt water disposal wells.

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth

ILLINOIS—Continued

Wabash County—

Snowden & McSweeney, McMillin 1, c n½ sw nw se 9-1n-12w..... 55 2020
Shell, Hein 3, se nw se 18-1s-12w 99 2053
Olds, Wells 1, sw sw nw 21-1s-12w 127 2065
Tide Water, Spencer 6, se nw nw 20-2s-13w 35 2482

Washington County—

Kingwood, Brink 5, se ne ne 15-1s-1w 144 1526

Wayne County—

Pure, Elliot 2, w½ se sw 1-1n-7e 275 3050
Hubbell 1, sw ne se 30-2n-8e.... 37 3070
Hubbell 2, sw sw se se 30-2n-8e 341 3040

White County—

Arrow Dr. Co., Hon 2, ne ne ne 5-4s-14w 165 2948
Sun & Ellis, Jacobs 3, sw sw ne 28-4s-14w 125 2856
Jacobs 1, se nw sw 28-4s-14w. 125 2899
Superior, Ford 15, n½ n½ se 28-4s-14w 200 2725
Ford 16, c n½ ne se 28-4s-14w. 210 2720
Given et al 10, s½ se se ne 33-4s-14w 189 2845
Fitton 10, s½ nw ne nw 33-4s-14w 135 2855
Fitton 8, sw ne nw 33-4s-14w.. 170 2854
Tide Water, Dennis 22, se se se 33-4s-14w 118 2832
C. V. Anderson, Bolerjack 1, nw sw nw 24-6s-8e 45 2386
Ryan Oil, Barnes 1, se sw se 12-6s-10e ..... • 3021
Cherry & Kidd, Prell 1, ne se sw 24-6s-10e 147 3003
Fisher Oil et al, Ellis 1, ne sw se 11-7s-8e 308 2167
Hiawatha, Vail 3, sw nw se 19-7s-11e 47 2938
Sinclair Wyoming, Boetticker 1, ne ne sw 19-7s-11e 180 2731
Boetticker 2, se ne sw 19-7s-11e 30 2749

OLD WELLS DEEPENED

Bond County—

Thornwell, Morris 1, nw nw nw 16-6n-3e (otd 1200) ..... • 2207

White County—

Magnolia, Bond 8, ne ne sw 8-4s-14w (otd 2735) 25 2825

Kansas

Barton County—

Phillips, Bitter 9 c s½ nw ne 6-16-13w 366 3364
Sinclair-Prairie, Hoffman 7, se nw ne 7-16-13w 3000 3364
Champlin, Burmeister 3, c e½ nw nw 13-17-11w 62 3375
Transwestern, Myers 2, c w½ nw ne 13-17-11w 2951 3321
Lario, Rehme 3, c w½ se sw 15-19-11w 3000 3348
O. J. Connell, Burchart 1, ne sw 11-20-11w ..... • 3336
Gulf, Meyer 4, c e½ sw se 13-20-11w 3000 3257

Butler County—

Cities Service, Phinney 21, c n½ se se 4-26-5e 7 2631

Cowley County—

Shell, Hall 1, nec 36-32-3e..... • 3618
Sinclair Prairie, Wilson 1, nec sw 29-34-3e ..... • 3481

Ellis County—

Dickey, Carmichael "C" 2, c n½ sw nw 17-11-17w 3000 3356
Dickey, Kollman 7, c n½ ne se 18-11-17w 3000 3353
Phillips, Horn 3, cel ne sw sw 5-12-17w (pb 3675) 20 3685
Bridgeport, Witt 1, c e½ nw ne 9-13-16w ..... • 3636

Ellsworth County—

Ingling & Parker, State 1, c sw sw 29-15-8w ..... ¶2.17 2555
Duwe & Farris, Hynek 1, c w½ se nw 17-16-10w ..... • 3388
Skelly, Myers 4, nw sw se ne 35-16-10w 3000 3315
Cities Service, Wesseler 5, c s½ nw se 19-17-9w 1414 3245

Greenwood County—

Barbara, Fankhouser 13, c n½ nw sw 23-22-12e 20 1710
K. T. Weideman, Lewis "A" 7, nec sw 25-27-8e (pb 2534)..... 15 2551
E. H. Barker, Dove 1, se sw sw 12-28-11e (pb 1092)..... • 1300

McPherson County—

Transwestern, Peterson 5, cwl sw ne se 18-20-5w 3000 3347
Stelbar, Zietlow 1, c e½ ne sw 19-17-1w 2372 2699

Pawnee County—

Stanolind & Amerada, Gates 2, c w½ se sw 13-20-16w 951 3859
Gulf, Seymour 1, c n½ sw nw 34-21-18w ..... • 4183

Pratt County—

Skelly, East Maxedon 7, cel ne sw ne 25-27-11w 503 3466
Krehbiel "C" 1, c s½ se sw 1-28-11w ..... ¶26.93 4258

Rice County—

Mariand, Minta 1, c e½ se nw 30-19-9w ..... • 144
Colorado, Keesling "A" 3, c w½ nw nw 10-20-9w 657 3233
Benson Dr. Co., Poncin 1, c w½ sw ne 17-20-10w ..... • 3368

Rooks County—

Helmerich & Payne, Baxter 4, c n½ sw nw 2-9-16w 81 3194
Vickers, Tatkonhorst "B" 1, c w½ se se 10-9-16w 237 3267

Russell County—

Coralena, Clyde 2, c n½ sw sw 1914-13w 48 2979
Ehrlich 4, c n½ se sw 19-14-13w 150 2937
Skelly, Collier 12, c s½ sw se 28-14-13w 365 2954
Shell, Ruby 1, nwc ne 36-14-13w (pb 2901) 2946 3219
National Ref., Holl 3, nw se se 21-14-14w 303 3105
Darby, Strecker "B" 4, se nw ne 25-14-14w 1567 2955
Gore et al, Schmidt 1, ne sw sw 15-14-15w ..... • 3298
Texas, Benso 1, c e½ ne sw 23-14-15w 20 3188
Cities Service, Mai "C" 1, c w½ sw se 24-14-15w 376 3176
Ohio, Harbauch 7, c e½ ne nw 25-14-15w 192 3154
Lario et al, Waudby 4, c e½ nw ne 26-14-15w 1511 3179
Palmer, Waudby 1, c n½ ne nw 26-14-15w 409 3202
Phil-Han, Soukub 1, nwc sw 3-15-12w 940 3035
Central et al, Waydziak 1, nwc 25-15-12w ..... • 3361
Carter, Detrich 12, c s½ s½ sw 8-15-13w 2115 2949
Coralena, Holland 1, c n½ sw nw 16-15-13w 3000 3086

Stafford County—

Stanolind, Richardson 7, se nw nw 10-24-11w 73 3800
Richardson 8, se nw sw 10-24-11w 865 3817
Cornwell 1, c w½ nw se 3-24-15w • 4015
L. E. Whitlock, McComb 1, c n½ ne ne 22-24-11w 950 3842
W. W. W. Dr. Co. et al, Wilson 1, c w½ nw nw 5-25-14w ..... • 3843

Kentucky

Daviess County—

Any Teller, Lebold 5, ne se se se 13-N-28 ..... 100 1286
Roy Mace et al, Sparks 1, s½ nw ne ne 18-N-30 ..... 5 1234

Henderson County—

Stewart & Snyder, Jackson 5, e½ se se se 14-O-25 ..... 12 722

McLean County—

W. E. Hupp et al, Livermore Tbr. 4, e½ sw ne nw 6-L-29 ..... • 1768

Ohio County—

Mike Callas, Wimp 1, 6-M-30..... • 980

WATER INPUT WELL

Daviess County—

Cumberland Pet., Ivy 11, w½ se sw ne 2-N-31 625

North Louisiana

Bossier Parish (Sligo)—

Triangle Dr. Co., Skannal A-3, 13-17n-12w 50 3142

De Soto Parish (Bull Bayou)—

C. H. Neighbors, Buffin 1, 11-10n-11w ..... • 3310

Claiborne Parish (Sugar Creek)—

Hassie Hunt, Deas 1, 12-19n-6w... 309 6446

South Louisiana

Acadia Parish (Jennings)—

Stanolind, CO&M Co. 120..... • 9539

Acadia Parish (Richie)—

Grubb & Hawkins, Ruppert 2..... 111 3507

Avoyelles Parish (Eola)—

Gulf-Andrau-Tide Water, Mouliere 7 195 8555

Calcasieu Parish (Iowa)—

Shell, Heyd 33 ..... 631 9004

Cameron Parish (West Hackberry)—

Stanolind, School Land C-25..... 372 9711

Evangeline Parish (Ville Platte)—

Continental, Tate-Becker 1..... 490 10,329

Iberia Parish (Wildcat)—

Gulf, Petite Anse Co. 1 (Avery Island area) ..... • 12,063

Iberia Parish (Little Bayou)—

Texas Co., Duhe 20..... 325 7736

Iberville Parish (Bayou Blue)—

Superior, Schwing 12 ..... • 5168

Jefferson Parish (Barataria)—

California Co., Unit A-12..... 292 8240

Jefferson Davis Parish (South Roanoke)—

Continental, Tietje 1 ..... • 10,479

La Fourche Parish (Bayou Des Allemands)—

Amerada, State 5 ..... 322 10,508

Plaquemines Parish (Garden Island)—

Texas Co., State 51 ..... 195 7116

Plaquemines Parish (West Bay)—

Guf, Gulf-Tide Water 2..... 615 7116

St. James Parish (Convent)—

Continental, Realty Oprs. 3..... • 9495

St. Martin Parish (Anse La Butte)—

Glassell & Glassell, Denbo 1..... • 6176
Iberia Pet. Co., Moresi A-5..... 48 1250

St. Martin Parish (Lake Mongoulois)—

Texas Co., State 10 ..... • 8827

Terrebonne Parish (Wildcat)—

Stanolind, Realty Oprs. 1 (Southdown area) ..... • 11,329

Michigan

Allegan County—

Gentry Eng. Co., Brown 1, ne sw ne 20-1n-13w 40 1335
L. C. Sleep, Bridgeman 2, se sw nw 29-1n-13w 30 1371

Bay County—

United Dr. & Prod., Kircher 4, sw ne ne 3-14n-4e..... 20 1523
Chapman Oil Co., Schultz B2, ne ne ne 3-14n-4e..... 40 1522

Cass County—

Cass Oil Co., Fordyce 1, nw ne nw 23-5s-16w ..... • 826

Clare County—

Chapman Oil Co., State 1, c n se se 35-20n-6w ..... • 3815

Monroe County—

James Brailey, Roe 4, sw se nw 30-6s-6e 2 2131
Vanco Oil Co., Montry 4, nw ne nw 31-6s-6e 30 2144

Montcalm County—

Taggart Bros., Maltritz 1, c sw 10-12n-10w ..... • 1175

Van Buren County—

Jetter Dr. Co., Hense 5, nw ne nw 14-1s-14w 20 1314
Clapsaddle & Harris, Fleckenstein 1, se se sw 23-1s-15w..... • 1595
Cribbet & Shaffer, Piper 1, ne sw ne 4-1s-16w ..... • 1001
Twin Drlg. Co., Culver 1, sw sw ne 30-2s-14w ..... • 1109

Mississippi

Yazoo County (Tinsley)—

Slick-Urschel, Slick 18, 2-10n-32.. • 4819
Lutz Johnson, Stutts 1, 31-10n-2w 917 5022
Gholson & Gholson, Stutts 1, 31-10n-2w 480 5025

Montana

Glacier County (Cut Bank)—

R. C. Jeffries, Exchange Oil Co. 2, se ne 33-35n-6w ..... • 3010
Montana Headlight Co., Williams 4, sw ne 11-34n-6w..... 85 2882
Hannah Porter Co., Tribal 2-189, se se 19-32n-5w 150 2820
Santa Rita O&G Co., Government 6, sw nw 8-32n-5w..... 150 2960
Texas Co., Jones 2, ne sw 6-33n-5w 65 2860

Toole County (Kevin-Sunburst)—

A. E. Crumley & Sons, Fryberger 1, ne ne sw 24-35n-3w..... 28 1608
High Gravity Oil Co., Horner 2, ne sw 18-35n-3w 120 2452
Nepstad - Montgomery - Fargher, Hogan-Lease 3-2, se sw sw 2-25n-3w 180 1871

Nebraska

Richardson County—

Midland Oil Co., Gebhard 1, nec 1-2n-15e ..... • 2628

New Mexico

Eddy County—

Otis A. Roberts et al, State 1, nw se se 24-17s-27e 240 460

Lea County—

Barney Cockburn et al, Pearsall 9-A, c se nw 33-17s-32e..... 976 3396

McKinley County—

A. S. Waddell et al, Santa Fe 1, nw nw 14-14n-10w..... • 1005

San Juan County—

Carroll & Cornell, Santa Fe 2, nw nw 12-29n-12w ..... ¶1.4 2035
Red Cactus Oil Co., Navajo 1, 35-29n-18w ..... • 1680

OLD WELL DEEPENED

Eddy County (Wildcat)—

Brewer Dr. Co., (was Artesia Dr. Co.) sec sw 14-17s-24e (otd 1281) • 2386

New York

Allegany County—

Vosburg Oil Co., Green farm, Bolivar 10 1275
Trio Oil Co., Durham farm, Bolivar 10 1389
Tyler & Livermore, Root farm, Bolivar 4 1256
M. J. Crowley Est., Thompson farm, Bolivar 3 1346
Star Oil Co., Neff farm, Wirt.... 7 1269
Cretekos & Vossler, Norton farm, Scio 5 1039

United States Well Completions—*Continued*

Company, Well and Location — Init. Prod. Bbls. — Depth

Helen Randall, Reid farm, Alma.. 8 1390
Bradley Prod. Corp., Duke farm, Alma 5 1436
Withey & Green, Green farm, Alma 5 1416
Brown & McEnroe, Barnes farm, Alma 5 1284
McEbenwood Oil Co., Lynch farm, Andover 9 1259
Hopkins, Short Bros. et al, Clark farm, Independence 6 1263
Scio O. & G. Co., Fuller farm, Scio 8 776
Forest Oil Co., Ackerman farm, Bolivar 9 1379
New York Oil Co., Brown farm, Bolivar 8 1369
Sawnet Oil Co., Merritt farm, Genesee 5 1422
Martin O'Connor Est., Hall farm, Genesee 4 1367

WATER INTAKE WELLS

Allegany County—
Chas. Reeland et al, Rowley farm, Bolivar .. 1070
V. V. V. Franchot, Murphy farm, Bolivar .. 1434
Ebenezer Oil Co., Norton farm, Bolivar .. 1562
Brothers Oil Co., Crandall farm, Bolivar .. 1376
R. B. Moore No. 6, Daniels farm, Bolivar .. 1371
V. V. V. Franchot, Emerson farm, Scio .. 1239
Triangle Oil Co., Rathbone farm, Scio .. 1232
Wilbart Oil Co., McDermott farm, Bolivar .. 1273
Bohne Bros., Materna farm, Wellsville .. 1349

Ohio

Ashland County—
Ohio Fuel, Muskingum Conservancy 1 * 2873
Athens County—
Burt Carpenter, Fee 1 1 105
Fee 2 1 150
Cuyahoga County—
Obermiller Bros., Cerney 1 ¶4.7 2723
Holmes County—
Ohio Fuel Gas, Owens 1 ¶0.58 3075
Lake County—
East Ohio Gas, Mather 1 * 3626
Licking County—
McClay Bros., Porter 8 40 3021
Dowler O. & G., Holton 1 ¶0.3 & 15 2529
Shuff-Bucy, Wright 1 ¶0.53 2396
Medina County—
Ohio Fuel Gas, Wilson 1 ¶0.66 3658
R. C. Holmes et al, Hostettler O-6 5 487
Hostettler O-7 5 496
Hostettler O-8 5 504
Preston Oil, Young 1 * 558
Meigs County—
Ohio Fuel, Dais 4 ¶0.04 418
Monroe County—
J. E. Lumbatis, Fee 3 ¶0.04 1907
Muskingum County—
Mehowa O. & G., Floyd 1 ¶0.59 4148
Noble County—
Metcalf et al, Masters 12 3 1045
Ohio Fuel Gas, Bashford 3 ¶0.36 1709
Dean Parker, Hesson 1 * 1798
Perry County—
Preston Oil, Cookson 3 23 3396
Washington County—
Charles D. Fogle, Fee 3 ¶0.2 1115
Campbell et al, Jenkins 1 ¶0.1 1547

INPUT WELLS

R. C. Holmes et al, Hostettler W-13 .. 464
Hostettler W-14 .. 506
Hostettler W-15 .. 499

Oklahoma

Caddo County—
Ohio, Wagner 12, sw nw sw 12-5n-9w 2069 3420
Carter County—
Kyle, Daughety 4, nw ne sw sw 17-4s-2w 216 2265
Coal County—
Ramsey, Harryman 1, c w½ se nw 27-2n-9e ¶6.0 5002
Harryman 1-A, nw se nw 27-2n-9e ¶11.0 1340
Creek County—
Springer, Coppedgel, nw se sw 20-15n-9e 50 3658
J. F. Upton, Fee 1, ne ne 4-16n-12e 9 1510
Midco, Ladybruner 3, sw nw 29-17n-11e * 2532
Garvin County—
Cox & Hamon, Partin 2, nec se 29-1n-3w 107 2254
Kay County—
Burkes Dev. Co., Avery 1, ne sw se ne 31-29n-1e 10 2008
Lincoln County—
Portable et al, Scott 1, nwc se 31-17n-4e * 3268
Logan County—
Big Chief et al, Hirzel 1, ne nw se 18-17n-1w * 5590
Okfuskee County—
Kewanee, Replogle 2, se nw ne 2-10n-8e (pb 3517) 25 3520
Summit, Steil 8, sw ne sw 18-10n-11e 360 2297
Sunray, Brooks 1, nec nw 2-11n-10e * 3922
Continental, Board 1, nec nw 15-13n-10e * 3490
Oklahoma County—
British American, Military 5, se sw ne sw 34-12n-3w 785 6493
Okmulgee County—
Wood, McKinney 1-A, sw nw ne 13-12n-12e ¶3.0 2087
L. L. Vincent, West 1, ne sw ne 6-13n-11e 100 3176
Viersen, Storm 9, c ne nw 16-13n-12e 12 2176
J. E. Dow, Rentie 7-A, ne se nw nw 13-14n-14e * 1092
Newmayer, Flint 1-A, c s½ nw 24-14n-14e 2 1002
Adams & Riley, Scott 5, sw sw se se 28-15n-11e 15 2865
Pontotoc County—
Hintzelman et al, Crawford 1, nec nw 12-4n-6e * 650
North American, Mount 1-A, se sw sw nw 13-4n-6e * 425
Pottawatomie County—
Viersen, Lippert 1 nwc ne 35-6n-3e * 2989
Amerada, Bodkin 1, ne sw se 27-8n-4e 153 3900
Phillips, Luttrell 1, nw ne nw 1-9n-3e 509 5266
Crosbie & Atlantic, School Land 1, c e½ se sw 16-9n-4e (pb 4651).. 462 4722
Seminole County—
Winona, Chisholm 2, se sw nw 19-7n-8e 175 1498
Stephens County—
H. J. Brown, Lowrey 1, nw sw nw 8-3s-5w (pb 1160) 35 1856
Tulsa County—
Betty Jane, Bowers 1-A, sw se ne 25-18n-14e * 1334

OLD WELLS DEEPENED

Okfuskee County—
Burke-Greis, Scott 1, c ne sw 20-10n-10e (otd 3260) (pb 3690.). ¶1.5 3708
Carter, Dill 1, c nw se 2-11n-8e (otd 3408) 100 3950
Byer et al, Board 2, sw se nw 10-13n-10e (otd 2667) 14 2716
Oklahoma County—
Bryan, Vaughan 1, sw swc ne 15-11n-3w (otd 6514) 310 6560
Seminole County—
Magnolia, Reed 1-A, ne nw ne 26-5n-7e (otd 2650) (pb 4150).... 80 4156
Stephens County—
D. & W. Oil Co., Pool 4, ne swc 35-1s-8w (otd 1923) 2 1925

Pennsylvania

BRADFORD DISTRICT

Messer Oil Corp., Loop 1½ ....
Andrew Johnson et al, Johnson.. ½ ....
Kendall Refining Co., Fee 1 ....
Forest Oil Corp. 1 ....
Forest Pet. Corp. 1 ....
Niagara Oil Corp., 6 wells 6 ....
Bradford Tr. Co., 21 wells 21 ....
George Van Vechten & Son, Tarr 2 ....
R. E. Hungiville No. 2, Bing 299-300 1 ....

Water Intake Wells

Penn Valley Crude Oil No. 2 Fee ... .
Forest Oil Corp., 2 wells ... .
Forest Pet. Corp., 2 wells ... .
Niagara Oil Corp., 2 wells ... .
Merry Bros., Bing 310 ... .

NEW YORK-PENN GAS FIELD

Hanley & Bird, C. J. Sutter * ....

MIDDLE DISTRICT

Dempseytown Gas Co., Shreiber.... ¶ ....
Duke & Buck, Duke 2 ....
S. H. Elder & Co., Elder 1 ....

Water Intake Wells

Shawnor Oil Co., Lot 106 ... .

BUTLER-ARMSTRONG DISTRICT

Pfeifer & Ethridge, Beahm 1 ....
R. A. Marshall, Marshall Hrs.... ¶ ....

SOUTHWEST DISTRICT

Armstrong County—
John Wray et al, Foster 2 * 3300
Fayette County—
Wahler-Powers, Woodrich 1 ¶2.0 1280
J. H. Cornell, Rockwell 1 ¶0.51 1486
Indiana County—
T. W. Phillips, Helvetia Coal 3.. * 3395
Jefferson County—
T. W. Phillips, Plyler 1 ¶0.04 3394
Washington County—
Wherry et al, Phillips 1 ¶0.19 2960

East Texas

Joiner Area—
M. H. McMurrey et al, Pinkston 6. 2400 3640
Oklahoma-Texas Trust, Neal 8.... 2500 3761
Tide Water, Shaw 15 1500 3665
Kilgore Area—
M. T. Flannigan et al, Kennedy 8 480 3720
Magnolia Griffin 24 600 3610
Overton Ref. Co., Crane 2 900 3566
Shell, Willoughby 33 3000 3589
Tide Water, Barton 33 1500 3574
Titan Oil Co., Dickson 7 124 3595
Longview Area—
Atlantic Ref., Jones 13 3500 3732
Lucey Pet. Co., Christian 8 2400 3614
Trapp & Blankenship, Miles 4.... 3500 3518
Anderson County (Wildcat)—
Mart Harris-J. C. Hawkins & Dunn, Anderson-Clayton 1 * 6047
Cherokee County (Wildcat)—
Bobby Manziel et al, Nagle 1.... * 5041
Franklin County (Talco)—
Humble, Penn-Humble 27 520 4291
Lamar County (Wildcat)—
C. W. Whitehead & Dahl Bros., Barr 1 * 1525
McLennan County (Wildcat)—
J. C. Kilgore et al, Huber 1 * 490
Rusk County (Wildcat)—
W. A. Barber-Al Bedinghouse, McCreary 1 * 3703
Smith County (Wildcat)—
M. H. McMurrey et al, Becker 1... * 5318
Van Zandt County (Wildcat)—
F. R. Jackson-Thompson, Bruce 1 * 4409
Wood County (Hawkins)—
General Amer. Oil Co.-C. Wade, Lott 1 433 4818
Humble, Christian Missions 1-B (103-ac) 452 4876
Moody 1, blk 23 458 4824
Ponder 2-A (81.44-ac) 118 4865
Ponder 1-B, blk 6 383 4830
Roger Lacy et al, Beck 1 507 4784
Rudco O&G Co., Methodist Church 1 485 4812

WATER DISPOSAL WELL

Joiner Area—
Ohio Oil Co., Sharp 4, (otd 3639) * 3792

Texas Panhandle

Carson County—
E. W. Means et al, Cooper 3-C.... 93 3117
Gray County—
Danciger O&R, Inc., Byrum 8..... 110 3300
Shell, Gething 4-A 224 2789
Hutchinson County—
Phillips Pet. Cockrell 70 57 3090
Kay 5 110 3193
Staples 5 146 3239

OLD WELL DEEPENED

Gray County—
Magnolia, J. E. Wright 7 (otd 2862) 123 3037

West Texas

Andrews County (North Cowden)—
Atlantic & Sun, Holt 4-B 262 4555
Crane County (Gulf-Waddell)—
Gulf, Waddell 42 (pb 3526) 67 3610
Crane County (Gulf-McElroy)—
Gulf, Crier-McElroy 52 455 2993
Crier-McElroy 53 487 2996
Crane County (Sand Hills)—
Gulf, Waddell et al, 22 5216 4595
Crockett County (Soma-Noelke)—
M. & M. Prod. Co., Noelke-State 1. 4879 1176
Wilshire Oil Co., Thompson 1 953 1285
Crockett County (World-Powell)—
G. M. Smith et al, Powell-Humble 1-B 111 2661
Ector County (Foster)—
Carlos Oil Corp., Johnson-Ohio 1. 368 4200
Forest Dev. Corp., Moss 3-G 276 4342
Sunray Oil, Johnson 3-F 656 4140
Ector County (Jordan)—
Cities Service, University 7-B.... 459 3610
Ector County (North Cowden)—
Stanolind, Midland Farms 2-D.... 778 4769
Fisher County (Royston)—
General Crude Oil Co., Flannigan 12 * 6746
Gaines County (Cedar Lake)—
Stanolind, Bremont 3 707 4860
Gaines County (Seminole)—
Amerada, Austin 3 849 5220
Gaines County (Wasson)—
Continental & Amon Carter, Wasson 11-48 1065 4967
Hockley County (Slaughter)—
Delta Dr. Co., Slaughter 2-C.... 642 4967
Slaughter 2-D 461 5024
Fain & Riner, Slaughter 2 723 4985
Honolulu Oil Corp., Frazier 6.... 1911 4980
Sid W. Richardson et al, Coe 5.. 1329 4975
Coe 7 777 4985
Coe 9 836 4977
Coe 12 1021 4985
R. L. Slaughter 16 1140 4988
R. L. Slaughter 17 1146 5004
W. J. Richardson et al, Allison-Sun 4 861 4985
Mitchell County (Northwest)—
F. W. Merrick, Inc., Mills 1 225 1730

[*Continued on next page*]

United States Well Completions—*Continued*

WEST TEXAS—Continued

Company, Well and Location	Init. Prod. Bbls.	Depth
Pecos County (Abell)—		
Phillips Pet., Silverman 1	1107	5400
Pecos County (Pecos Valley)—		
H. G. Eastham et al, Iowa Realty 3	297	1648
Pecos County (Walker)—		
Shasta Oil Co., White-Baker 7	66	1938
White-Baker 8	77	2045
Pecos County (Wildcat)—		
Phillips Pet., Price 1-128	*	2983
Scurry County (Sharon)—		
Pearson-Sibert Oil Co., Bishop 3	210	2449
Burney 2	157	2446
Upton County (McCamey)—		
Gulf, Shirk 19	184	2380
Miami Oil Co., Bowen-Shell 1	240	2237
Ward County—		
Gulf, Estes 146	1812	2692
Winkler County (Keystone)—		
Standard of Texas, Baird 12-23	848	3401
Baird 19-16	326	3357
Yoakum County (Wasson)—		
Aloco Oil Co., Miller-Texaco 16-B	899	5219
Amon Carter & Conoco, Willard 11-38	1236	5040
Denver Prod. & Ref. Co., Whittenburg 30	670	5180
Drilling & Explo. Co., Randall-Humble 1-A	298	5106
J. W. Murchison et al, Sawyer 2	188	5264
OLD WELL DEEPENED		
Gaines County (Wasson)—		
Continental, Wasson 3-49 (otd 4986)	878	5056

North Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County (Hull-Silk)—		
J. A. Chapman et al, Wilson 4-A	504	3816
Archer County (Griffin-Kadane)—		
Phillips Pet., Griffin-Johnie 1	464	4375
Archer County (Mankins)—		
Roeser-Pendleton, Parkey 2	*	4705
Archer County (Scotland)—		
Shell, Coleman 1-C	1830	5151
Archer County—		
Henry Grace et al, Wilson 4	*	1587
Wilson 5	*	1565
Morgan & Turner, Andrews 7-A	31	1415
Pet. Producers Co., King 7	306	1240
King 8	262	1244
Koester 4	*	1181
Koester 5	*	1142
Baylor County (Turbeville)—		
Sinclair Prairie, Turbeville 1	72	2555
Clay County (Wildcat)—		
Bridwell Oil Co., Myers 2 (pb 5792)	600	6098
Clay County (Antelope)—		
Shell, Mullens 3	684	3232
Clay County—		
Geo. W. Graham et al, Hansard 6	12	1150
A. P. Kouri et al, Cheeves 1	110	1141
Perkins & Cullum, Taylor 6-A	60	1121
Stayton Oil Co., McGregor 7	25	1179
J. M. Tanner et al, Rigsby 15	4	224
Cooke County (Walnut Bend)—		
Sinclair Prairie, Ramsey 10	247	4784
Cooke County—		
Humble, Hellman 15	84	1303
Kleiss 1	6	1298
Kleiss 2	*	1758

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Company, Well and Location	Init. Prod. Bbls.	Depth
Kingery Bros. Dr. Co., Trubenbach 5	30	1644
Montague County (Benton)—		
Stanolind, Dodson 2-A	548	5149
Montague County—		
Dan Hughes et al, Crow 1	150	825
Throckmorton County (Wildcat)—		
J. Calvin Jones et al, Wilhelm 1	*	757
Wichita County (K-M-A Ellenberger)—		
Consolidated Oil, Griffin 30-E	560	4324
Shell & Phillips Pet., Griffin 23-E	1344	4396
Tide Water et al, Pettit-State 2-E	824	4422
Wichita County (K-M-A)—		
R. P. Dorian & Barnes, Barnes 2-B pb 4316)	10	4501
W. H. Hammon-Hanlon & Buchanan, Fassett-Tuttle 40	504	4067
D. M. Ross et al, Mitchell 29	49	3881
Wichita County—		
Akin-Dimock-Costley, Dodson 8-A	25	1329
Hanlon & Buchanan, Burnett 3-A	10	722
Hammon - Hanlon & Buchanan Fassett-Tuttle 40-A	*	1400
Wilbarger County (Consolidated)—		
W. T. Waggoner Ref. Co., Fee 7-GG	576	3751
Wilbarger County (Fargo)—		
Amerada, Dodson 2-B	1216	4027
Wilbarger County—		
Geo. T. Davis et al, Waggoner Est. 3	8	1560
Waggoner Ref. Co., Fee 31-AA	10	1697
J. A. Wood et al, Womack 2-D	120	1783
Womack 4-D	129	1801
Young County—		
C. J. Bohner & Gilmore, Prideaux 9-A	5	574
Bohner & Watson, Prideaux 16	4	569
L. T. Burns et al, Bloodworth 11	95	886
Leberman 4	55	888
Lion Oil Ref. Co., King-Wooten 2	792	3715
W. F. Palmer et al, Campbell 2-B	*	1000
Marshall-Morgan 3	26	908
Marshall-Morgan 4	*	970
Marshall-Morgan 2-B	60	911
Sams & Prideaux, Prideaux 7	*	679
Young County (Wildcats)—		
N. H. Martin & Son, Hunt 1	*	1160
G. J. Scholl et al, Howard 1-A	*	893
Wooten & Wilson, Webb 1	*	588
OLD WELL DEEPENED		
Young County—		
J. McLester & Coke Lupton, Choate 2 (otd 3636)	7	4107

Texas Gulf Coast

Company, Well and Location	Init. Prod. Bbls.	Depth
Brazoria County—		
Strake Pet., Griffith 1	*	10,410
Chambers County (Anahuac)—		
Navarro, Porter 1	630	7125
Chambers County (Fishers Reef)—		
Humble, State C-10	173	8756
Chambers County (Barbers Hill)—		
Mills Bennett, Gulf C-2-A	157	5370
Harris County (Dyersdale)—		
Jack Frazier, Griffith 6	*	4150
Harris County (Tomball)—		
Humble, Juergens C-3	*	5620
A-9 Kobs	312	5556
Jefferson County (Lovell Lake)—		
Humble, Broussard 28	141	7800
Liberty County (Hull)—		
D. & L. Prod. Co., Pivoto 4	65	5500
Gulf Oil Corp., Baldwin 23 (WO)	76	4285
Scarborough 20	104	2800
South Oil Co., Stanolind Rudisill 3	275	4758
Liberty County (Martha)—		
Stanolind, Seaberg B-1	145	8231
Matagorda County (N. Markham)—		
Sun Oil, Braman 2	158	8107
Wharton County (Withers)—		
Texas Co., Pierce C-97	116	5373

Southwest Texas

CORPUS CHRISTI DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Aransas County (McCampbell)—		
Baytex & Atlantic, McCulloch 2	*	10,496
Brooks County (LaGloria)—		
LaGloria Operators, Unit 12	¶250.0 & 500	6850
Colorado County (Garwood)—		
W. R. Davis, Brownson 2-B	*	6157
Jackson County (LaWard)—		
Humble, Bonnet 3	650	5226
Jackson County (Lolita)—		
Humble, L. Ranch 16-A	650	5938
Skelly, M. Mitchell 3	500	5300
Jackson County (West Ranch)—		
Magnolia, West 149-A	*	5760
West 157-A	500	5591
West 160-A	750	5750
West 161-A	950	5764
Jim Wells County (Wade City)—		
Atlantic, Mueller 6	550	4912
Live Oak County (White Creek)—		
H. Coquat, Goad 4	*	1875
Holland & Smith, Miller 5	40	1401
Live Oak County (Wildcat)—		
Brauer et al, Atkinson 1-B	*	920
Nueces County (Agua Dulce)—		
R. H. Hawn, Wofford 1-A	500	7005
H. H. Howell, Talbert 1	*	7007
Nueces County (S. Clara Driscoll)—		
Bryant & Saner, Galvan 5	250	6076
Nueces County (Stratton)—		
Southern Minerals, Stratton 17	500	6650
Stratton 19	500	6680
Nueces County (Wilcat)—		
Smith & Mosser, Morgan 1	*	6009
San Patricio County (Midway)—		
British American, Ivey 3, new sand	450	6495
Victoria County (Coletto Creek)—		
Albert Plummer, Terrell 6-A, new sand	500	4832
Victoria County (Cologne)—		
Harry Edwards, Schaar 1	¶30.0	3034
Victoria County (Placedo)—		
Barnsdall, Schovajsa 2	133	4764
Victoria County (E. Telferner)—		
Houston, Wood 1, south outpost	*	6405
Old Wells Deepened		
Jackson County (Lolita)—		
Shell, Willoughby 3 (otd 5950)	500	6401
Nueces County (Turkey Creek)—		
Renwar, Harrington 13 otd 3867)	*	5694

LAREDO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Duval County (Casa Blanca)—		
Adelon, Martin 3-C	56	1132
Texas, Duval Ranch 44	46	1048
Duval County (Hoffman)—		
Cox & Hamon, Cuellar 4-123	80	3159
Duval County (Colmena)—		
Colmena, Duval 2-A, west outpost	*	1402
Jim Hogg County (Colorado)—		
Humble, King-Colorado 20-B	450	2971
Jim Hogg County (Holbein)—		
Guy Davis, Holbein 1-D, northwest outpost	*	2728
Jim Hogg County (Wildcat)—		
Sun, East 5	*	4546
Starr County (Rincon)—		
Continental, Slick 25-A	175	4372
Slick 45-B	150	4502
Slick 51-B, south outpost	150	4613
Slick 92-B	500	4080
Star County (Sun)—		
Sun, McKinney 11	250	5135
Webb County (Wildcats)—		
Houser & Campbell, Marshall Bros. 1	*	2515
W. C. McBride, Garza	*	2410
Zapata County (Escobas)—		
Dulup, Garcia 7-C	*	1042

SAN ANTONIO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Bexar County (Gas Ridge)—		
Southwest, Covel 15	2	435
Covel 17	2	457
Caldwell County (Bee Creek)—		
Ralph Ogden, Miears 11-A	895	2209
Caldwell County (Tenney Creek)—		
Wiegand Bros., Ellison 1	275	2640

West Central Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Brown County (Wildcat)—		
Guyle Greynolds et al, Crownover 1	¶4.0	2955
Brown County—		
A. A. Elms et al, Fetty 1	¶0.33	1509
Janellen Oil Co., Barnes 2	¶0.35	1170
Callahan County (Wildcat)—		
C. J. Kleiner et al, Williams 2	*	1080
Coleman County (Wildcat)—		
J. O. Hart & Son, Peyton 1	*	1660
Jones County—		
Fain-McGaha Oil Corp., Shaheen 9	*	2051
J. C. Hunter et al, Strand 1-B	18	3458
Shackelford County (Wildcats)—		
Ellis A. Hall et al, Dyer 1	*	1264
T. S. Stanfield et al, Fincher 1	*	984
Stephens County (Wildcat)—		
J. Morgan Russell et al, Tipton 1	*	416

West Virginia

Company, Well and Location	Init. Prod. Bbls.	Depth
Calhoun County—		
Hope Nat. Gas, Shaffer 7499	1	2197
Frame 8532	¶1.0	2000
Kanawha County—		
Columbia Carbon, Harper 1	¶3.66	5259
Putnam County—		
Johnson Gas Co., Johnson 1	¶0.11	2282
E. J. Elkins et al, Vance Hrs. 1	¶0.06	2254
Upshur County—		
Cumberland & Allegheny Gas, Phillips 306	¶0.3	2169
Old Well Deepened		
Lincoln County—		
United Fuel Gas, Barrett 4908 (otd 2293)	*	3492

Wyoming

Company, Well and Location	Init. Prod. Bbls.	Depth
Carbon County (East Allen Lake)—		
Medicine Bow Oil Co., Richards 1, se ne 18-22n-78w	¶10.0	2210
Weston County (Osage)—		
Grant Butcher, State 6, sw ne 16-46n-63w	1.5	190
Updike Bros., Fee 15, sw sw 30-46n-63w	3	1488
Al Jones et al, Fee 15, nw nw ne 21-46n-63w	*	239

WILDCAT REPORT
New Starts and Completions

CALIFORNIA

FIRST REPORTS

Kern County—Shell's Smith 46-11, sec 11-26-27, lcn, Mt. Poso area. Phillips Oil Prod. Co.'s No. 1, sec 13-24-18, foundation, Pyramid Hills area.

Los Angeles County—Continental's Turnbull Community 1, sec 13-2-11, lcn, Puente Hills area. Jergins Oil Co.'s Dominguez 1, sec 5-4-14, lcn, Redondo area.

Santa Barbara County—O. C. Field Gaso. Co.'s Palmer-Stendal 1, sec 24-9-33, lcn, Cat Canyon area.

Ventura County—C. W. Fetterman and K. H. Hunter's Capital Crude 1 and 2, sec 7-3-19, lcns, Bardsdale area.

COMPLETIONS

Kings County—Blair Oil Co.'s No. 1, sec 24-23-16, td 985 ft, hole caved, abnd, Reef Ridge area.

Kern County—Kern Valley Dr. Co.'s Williams 1, sec 30-30-30, td 1106 ft, granite 1080 ft, abnd, Edison area.

ILLINOIS

FIRST REPORTS

Clinton County—T. R. Kerevin et al's Glaser 1, nw se sw sw 2-1n-3w, lcn.

Fayette County—Dremo Dev. Co.'s Mahan 1, sw se se 3-5n-3e, dr.

Franklin County—Bay Oil Co.'s Johnston 1, sw sw se 17-6s-3e, dr.

Jefferson County—Kingwood's Landis 1, sec nw se 17-2s-1e, lcn.

Johnson County—James Monroe's Casey 1, e½ nw ne 24-11s-3e, lcn. Harding & Harlowe's McMuran 1, ne nw ne 26-11s-3e, lcn.

Lawrence County—Midwest Dev. Co.'s Mullens 1, nec sw 15-2n-12w, dr. Big Four O&G Co.'s Gillispie 35, c n½ sw se 26-3n-12w, dr.

Pulaski County—Case Engr. Co.'s Olmsted 1, sec se sw 22-15s-1e, dr.

Richland County—E. E. Nofs et al's Nuling 1, nw sw nw 6-4n-14w, lcn.

St. Clair County—Magnolia's Probst 1, se se se 2-2s-9w, lcn.

Wabash County—Mabee Dr. Co.'s Brines 1, nw sw nw 9-1s-13w, dr.

White County—Ryan Oil Co. et al's Lamont 1, ne sw sw 33-3s-10e, lcn. Roche-Boyles-Buckman's Groff 1, c e½ se sw 25-3s-10e, lcn.

COMPLETIONS

Bond County—Thornwell's Morris 1, nw nw nw 16-6n-3w, abnd 2207 ft.

Christian County—Olson Dr. Co.'s Tex 1, w½ sw se 24-12n-1w, abnd 2717 ft.

Clay County—Carl Robinson et al's Tolliver 1, sw nw se 26-4n-7e, td 2327 ft, 2540 bbls.

Clinton County—B. E. Martin's Heinzman 1, se se se 4-2n-1w, abnd 1434 ft.

Crawford County—Page et al's Bennyhill 1, ne ne nw 9-6n-13w, td 2976 ft, 90 bbls.

Gallatin County—Horn Faulkner's Hughes 1, se nw sw 9-8s-10e, abnd 2118 ft.

Greene County—Scroggins' McVay 1, c sw ne 4-10n-11w, abnd 595 ft.

Lawrence County—Willis' Pinkstaff 1, ne ne se 2-4n-11w, abnd 1678 ft.

Madison County—Alch & Carroll's Wrinkle 1, sw ne nw 33-5n-6w, abnd 1283 ft.

Marion County—J. Dunbar's Rice et al 1, se nw sw 27-3n-1e, abnd 1637 ft. Allen's French 1, sw sw se 19-4n-3e, abnd 2262 ft.

Saline County—Taylor Dr.'s Porter 1, ne nw se 34-8s-6e, abnd 2582 ft.

Shelby County—Davis' Byland 1, ne ne ne 10-10n-3e, abnd 1200 ft.

St. Clair County—S. C. Newhart's Miller 1, ne nw nw 6-2n-7w, lcn abnd.

Washington County—Kingwood's Brink 5, se ne ne 15-1s-1w, 1526 ft, 144 bbls.

White County—French & Lavender's Metcaff 1, sw sw se 31-3s-14w, abnd 3077 ft.

INDIANA

FIRST REPORTS

Gibson County—Ill.-Ind. Prod. Corp's Stratman 1, c nw nw 14-4s-10w, dr.

Posey County—Sam Yingling's Wilborn 1, se ne nw 34-5s-14w, lcn. Yost et al's Allyn 1, nw se sw 14-7s-13w, dr.

Vigo County—Oakley's Montgomery 1, c n½ n½ nw 20-14n-8w, dr.

Warrick County—Kenn-Pen Oil Co.'s Metz 1, se sw nw 10-6s-7w, lcn.

KANSAS

FIRST REPORTS

Barton County—Isern Bros.' Laudick 1, c s½ se nw 28-16-12w, lcn. R. Shield's Pimpler 1-A, c w½ nw ne 31-18-11w, lcn.

Douglas County—J. Epperson's Howard 1, se nw 25-13-19e, dr.

Greenwood County—R. Sharpless' Linter 1, nw sw nw 20-27-11e, mach.

McPherson County—Westgate - Greenland's Rosander 1, c e½ sw sw 33-17-2w, rig.

Reno County—Simpson Oil's Snowbarger 1, sw se ne 21-23-10w, rig.

Rice County—Bronson's Stratton 1, c n½ nw sw 2-19-9w, ru.

Russell County—Central's Harbaugh 1, nw nw nw 21-14-12w, mim.

COMPLETIONS

Leavenworth County—W. Turner's Merritt 1, ne sw ne 34-10-21e, abnd.

Rooks County—Bartlett-Vernon's Liebenau 1, c s½ sw sw 32-6-19w. anhydrite 1580 ft, Herrington 2060 ft, Windfield 2110 ft, Topeka 3030 ft, sso 3311-13 ft, 3537 ft, porosity in Arbuckle, abnd 3566 ft.

KENTUCKY

FIRST REPORTS

Daviess County—J. S. Smith's Nally 1, nwc se 24-N-30, dr.

McLean County—Sam Malis' Barthimus 1, swc se nw 25-M-29, dr.

COMPLETION

Ohio County—Mike Callas' Wimp 1, sec 6-M-30, abnd 980 ft.

SOUTH LOUISIANA

FIRST REPORTS

Cameron Parish—John Mayo & George Echols' School Land 1, Johnson Bayou area, sec 16-15s-14w, lcn.

Terrebonne Parish—Sinclair Prairie's Deuplantis 1, Bourg area (Moncrief pros) sec 13-18s-18e, rd.

COMPLETIONS

Iberia Parish—Gulf's Petite Anse Co. 1, Avery Island pros, td 12,063 ft, no salt, pb 5336 ft, dr 5841 ft new hole, abnd.

Terrebonne Parish—Stanolind's Realty Operators 1, Sonuthdown pros, sd 9200-10 ft, abnd 11,329 ft.

MICHIGAN

FIRST REPORTS

Arenac County—Socony-Vacuum's Danckert 1, ne se nw 9-18n-4e, rig.

Cass County—H. T. Barnaby's Roberts 1, se sw nw 23-8s-15w, lcn.

Clare County—Freeman Oil Co.'s Sutton 1, sec 22-17n-4w, rig.

Huron County—Markle, Boons & Gray's Purdy 1, sw se se 34-17n-15e, dr.

COMPLETIONS

Montcalm County—Taggart Bros. Co.'s Maltritz 1, c sw 10-12n-10w, abnd 1175 ft.

Van Buren County—Cribbet & Shaffer's Piper 1, ne sw ne 4-1s-16w, Traverse 1079 ft, abnd 1101 ft. Twin Dr. Co.'s Culver 1, sw ne 30-2s-14w, Traverse 1087 ft, abnd 1109 ft.

NEBRASKA

FIRST REPORTS

Johnson County—W. Shelton's Rulla 1, c sw sw 24-5-9e, rig.

Otoe County—Parker Dr.'s Hays 1, c e½ ne ne 3-7-9e, dr 500 ft.

COMPLETIONS

Richardson County—National Pet.'s Oswald 1 c nw sw 15-2-14e, Hunton 2551, 1000 gals acid, 500 gals butane, 1200 gals acid, 1000 gals butane, 5000 gals acid, td 2661 ft, 1000 ft w in hole, abnd. Midland Oil's Gebhard 1, ne ne ne 1-2-15e, Mississippi 2218-48, Hunton 2611, cored to 2628 ft, abnd.

NEW MEXICO

FIRST REPORT

Eddy County—Culbertson & Irwin, Inc.-Sanders Bros.' De Temple 1, c sw sw 27-19s-31e, sp.

OKLAHOMA

FIRST REPORTS

Caddo County—Olson Dr. Co.'s Ka-Way-Kla 1, c se ne nw 28-6n-11w, pits.

Cleveland County—W. A. Delaney's Bandy 1, nw se sw 13-7n-2w, pits.

Creek County—O. Owens' Meadvis 1, near c ne½ 16-15-7e, rig.

Grady County—R. Stephens' Johnston 1-A, s nw ne nw 18-5n-8w, cellar..

Hughes County—Breen's Cahill 1-A, c n½ n½ s½ 2-6n-8e, lcn.

Johnston County—Baldwin & Reed's Davis 1, c s½ sw nw 8-2s-8e, spd.

Kiowa County—E. M. Thomasson's Baker 1, c nw ne nw 7-6n-18w, sp. J. Hughes' Dugger 1, c ne sw sw 14-6n-18w, lcn.

Lincoln County—R. Kemp's McLaurey 1, se se sw 28-17n-5e, sp.

[*Continued on next page*]

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OKLAHOMA—Continued

Okfuskee County—Mico's Curry 1, nw se nw 17-12-8e, mirt.

Pontotoc County—R. Cason's Adcock 1, se nw ne 21-4n-6e, rig.

Pottawatomie—Stanolind-Amerada's Rowan 1, ne nw sw 20-9-4e, lcn.

Seminole County—Winona's Heller 1, ne ne ne 25-10-7e, lcn.

COMPLETIONS

Cleveland County—Gus Delaney et al's Montgomery 1 se nw ne 13-7-2w, 1st Wilcox 7640-50, ¾-in ch, 173 bbls, no water.

Logan County—Big Chief's Trim 1, ne ne se 13-17-2w, Hogshooter 4240 ft, Layton 4260 ft, Checkerboard 4500 ft, Oswego 4920 ft, Skinner 5083 ft, Mississippi 5174 ft, Misener 5259 ft, Hunton 5285 ft, Wilcox 5493 ft, 2nd Wilcox 5565-77 ft, abnd.

Osage County—B. H. Wofford's Osage Tribe 1, sw sw nw 10-22-11e, Hominy 2111 ft, Arbuckle 2123 ft, abnd 2161 ft.

Pawnee County—Alladden's Frances 1, c sw sw nw 4-19-1w, dolomite 5243, 1st Wilcox 5259-67, core 5270½ ft, abnd.

Pottawatomie County—Mid-Continent's Felix 1, se sw sw 11-9n-4e, Viola 4052 ft, dense 4086 ft, Wilcox 4137 ft, abnd 4247.

Seminole County—Eagle Oil's Mann 1, sw ne ne 31-7l-7e, sand 2020, 1,250,000 ft gas.

WEST TEXAS

FIRST REPORT

Ward County—Shell's Sealy-Smith 1, nec se G&MMB&A sec 38, blk A, lcn Ordovician test.

COMPLETION

Pecos County—Phillips' Price 1-128, c se se T&St. L. sec 4, blk 106, abnd 2983 ft.

WEST CENTRAL TEXAS

FIRST REPORTS

Comanche County—O. L. Stutenrouth et al's Kirk 1, John Talbot sur A-941, lcn.

Jones County—M.C.L. Corp.'s Swanson-Swenson 1, near c nw nw BBB&C sec 187, lcn.

Taylor County—Lewis Production Co.'s Henslee 2, J. A. Nabors sur 10, lcn.

COMPLETIONS

Brown County—Guyle Greynolds et al's Crownover 1, sec BBB&C sec 26, new pool, 5000 gals acid 2905-34 and 2944-47 ft, td 2955 ft, 4,070,000 ft gas initial.

Callahan County—C. J. Kleiner et al's Williams' 2, nec lse T&NO sec 2, blk C, abnd 1080 ft.

Coleman County—J. O. Hart & Son's Peyton 1, sw part lot 7, Sam Mixon sur, abnd 1660 ft.

Shackelford County—Ellis A. Hall et al's Dyar 1, swc T&P sec 73, blk 12, abnd 1264 ft. T. S. Stanfield et al's Fincher 1, near c s½ T&P sec 7, blk 11, abnd 984 ft.

Stephens County—J. Morgan Russell et al's Tipton 1, nwc TE&L sec 120, abnd 416 ft.

SOUTHWEST TEXAS

FIRST REPORTS

Colorado County—Shell's Plow Realty Co. 4, F. Mayhar sur, 3700 ft n Sheridan pool, prep mi 10,500-ft Wilcox test.

Kleberg County—Corpus Christi Corp.'s Wardner 20, Adajo gr, 4383 ft, s Stratton pool, ru 6600-ft test.

Lavaca County—Shell's Neuhaus 1, J. D. Ragsdale sur, s Vienna fld, lcn 10,500-ft Wilcox test.

Maverick County—Humble & Wellington's Indio Cattle Co. 2, Rivas gr, 22 mi se Eagle Pass, abnd in 1939 3013 ft, to dd to 6500 ft.

Medina County—F. D. Spratt's Haegelin 1, BFI&M sur, 6 mi sw Hondo, prep mi 1000-ft test.

Milam County—Skidmore & Disbro's Graham 1, C. Cernes sur, 1½ mi nw Sharp, prep mi 3500-ft test.

Webb County—Union Oil of Cal.'s Volpe & Benavides 1, Day sur 2011, 20 mi n Laredo, lcn 6000-ft Wilcox test.

Willacy County—Clark & Cowden & Butler & Horn's Yturria Land & Cattle Co. 1, 1½ mi nw Sal Viejo fld, lcn 7500-ft test.

Wilson County—C. G. Newton's Hierholzer 1, Salinas sur, 15 mi w Floresville, lcn, 1500-ft test.

Zapata County—Venture Pet. Corp.'s Ramirez 2-Y, Lopeno area, prep mi 5000-ft Wilcox test.

COMPLETIONS

Aransas County—Baytex & Atlantic's McCullock blk 14, ne side McCampbell fld, abnd 10,496 ft.

Duval County—Colmena Oil Co.'s Duval Ranch 2-A, blk 17, sur 52, 3500 ft w Colmena pool, oil show 1399-1401 ft, abnd 1402 ft.

Jim Hogg County—G. A. Davis' Holbein 1-D, sec 3, 3500 ft nw Holbein fld, slight show 2701-2712 ft, abnd 2728 ft. Sun's East 5, sec 793, abnd 4546 ft.

Live Oak County—Brauer, Beacham & West's Atkinson 1-B, Ayers sur, slight show 891-905 ft, abnd 920 ft.

Nueces County—Smith & Mosser's Morgan 1, Casa Blanca gr, sw with o show, Koehler sand 5197-5202, abnd 6009 ft.

San Patricio County—British American's B. E. Ivey 3, at Midway, td 6495, perf 6050-51 ft 7 shots, 68 bbls 46.5-gr, 12/64-in ch, 1975 lbs tp, 2050 lbs cp, no water, gor 2600/1, new sand.

Starr County—Continental et al's Slick 51-B, 1 mi s extension Rincon fld, td 4613 ft, perf 4036-46 ft 60 shots, 52 bbls clean oil, 3/16-in ch, 1425 lbs tp, 1550 lbs cp.

Victoria County—Albert Plummer's Terrell 6-A, at Coletto Creek, td 4832 ft, perf 4703-11 ft 24 shots, 130.23 bbls 25.5-gr oil, ⅛-in ch, 850 lbs tp, 1375 cp, no water, gor 800/1, new sand. Houston Oil Co.'s Wood 1, sur 2, s outpost East Telferner, sand oil odor 4400-64 ft, abnd 6405 ft.

Webb County—Houser & Campbell's Marshall 1, sec 702½, abnd 2515 ft. W. C. McBride's Garza 1, sec 697, abnd 2410 ft.

NORTH TEXAS

FIRST REPORTS

Clay County—John C. Murphree et al's Byers 1, nwc n 72 ac of s 132 ac blk 5, Byers subd, lcn. Superior Oil Co.'s (Cal.) Seigler-Shell 1, sec w 120 ac TE&L sec 3211, 4½ mi se Joy, mim deep test.

Cooke County—Moss Holmes et al's Coffee 1, L. P. Tipton sur A-1608, lcn.

Montague County—Shell's Thomas 1, blk 95, Kaufman csl, 4½ mi se Spanish Fort, lcn deep test.

Wichita County—Craig & Wilson's McKinley 1, near swc Wm. Anglin sur A-2, lcn. E. C. Harlin, Jr.-Tom Medders' Hansard 1, swc blk 48, Specht-McCutchin subd, lcn. Northern Dr. Co.'s Roller 1, nw part C. T. Ry. sur A-438, lcn.

Young County—Hayden Farmer et al's Boone 1, nec sw se BBB&C sec 1, A-34, lcn. E. D. Willis et al's Garvey 1, se ne TE&L sec 185, lcn.

COMPLETIONS

Clay County—Bridwell Oil Co.'s Myers 2, C. Thompson sur A-444, new pool, Bend 5581 ft, Barnett shale 5917 ft, Simpson 6011 ft, Ellenberger 6078-98 ft, pb perf 60 shots 5776-92 ft, 3000 gals acid, 75 bbls 44-gr, 3 hrs, ½-in ch.

Throckmorton County—J. Calvin Jones et al's Wilhelm 1, TE&L sec 651, abnd 757 ft.

Young County—N. H. Martin & Son's Hunt 1, se ne ne TE&L sec 175, abnd 1160 ft. G. J. Scholl et al's Howard 1-A, sw ne TE&L sec 1461, abnd 893 ft. Wooten & Wilson's Webb 1, se part A. Rohus sur, abnd 588 ft.

EAST TEXAS

FIRST REPORTS

Houston County—Lone Star Gaso. & Trinity Gas Corp.'s Bolton-Humble 1, n½ 324-ac tr, G. W. Wilson sur, Augusta pros, Woodbine lcn.

Rusk County—E. L. Baker et al's Jas. Evans 1, 115¼-ac tr, Wade H. Walters sur, ¾ mi n New Salem, sp, R. S. Kirby et al's Richardson 1, nec blk 5, J. I. Sanchez sur, lcn.

Upshur County—Frank Darden et al's Kay 1, near c of 6-ac tr, J. Carson sur, Big Sandy townsite, lcn shallow test.

Wood County—Al C. Bierman et al's Jones 1, nec Joe Simpkins sur, but in J. Sherman sur, Alba townsite, sp & sd.

COMPLETIONS

Anderson County—Mart Harris-J. C. Hawkins-Dunn's Anderson-Clayton Co., sec 58.8-ac, Wm. Frost sur, elev 475 ft, Pecan 4268-4504 ft, Austin 5359 ft, Woodbine series 5964 ft, abnd 6057 ft.

Cherokee County—Bobby Manziel et al's Nagle 1, swc 138.1-ac tr, T. Timmons sur, elev 368 ft, Pecan 3611-4047 ft, Austin 4610-4827 ft, Woodbine sand 4945 ft, abnd 5041 ft.

Rusk County—W. W. Barber-Al Bedinghaus' McCreary 1, near NEc 265-ac tr, M. Suejas sur, elev 477 ft, Pecan 2500-2944 ft, Austin 3380 ft, Georgetown 3585 ft, abnd 3703 ft.

Smith County—M. H. McMurrey et al's Becker 1, nwc 26.7-ac tr, M. Culbertson sur, elev 610 ft, Pecan 3367-3690 ft, Austin 4646 ft, Woodbine series 5013 ft, sand 5297 ft, abnd 5318 ft.

TEXAS GULF COAST

FIRST REPORTS

Madison County—Leon Dunn's Jackson 1, 6 mi sw Madisonville, se cor, 126-ac tr, Arter Crownover sur, lcn 2500-ft test.

Wharton County—Sinclair prairie's Carlson 1, ETRR sur, sec 65, 3 mi sw Withers fld, lcn 8000-ft test.

COMPLETIONS

Brazoria County—Strake Pet.'s Griffith 1, Halls Bayou area, H. P. Cayce sur, blew out 10,288-298 ft, dr 10,326 ft, 456 bbls 3/16-in ch, csg collapsed, pb and side-tracked, new hole 10,410 ft, tested oil, tubing collapsed, side-tracked, dr 10,389 ft, oil and sw, abnd.

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MEN IN THE INDUSTRY'S NEWS

W. E. GRIFFITHS, engaged in engineering and sales promotion of stainless and other alloys for Carnegie-Illinois Steel Company in the Mid-Western states, has been named manager of a new development engineering department of Allegheny Ludlum Steel Corporation, Pittsburgh. Eighteen years ago he started as a metallurgist with Union Carbide and Carbon Research Laboratories, specializing in stainless alloys, and later held metallurgical positions with Duraloy Company and the central alloy division of Republic Steel Corporation.

W. E. Griffiths

W. F. Detwiler, Jr., assistant manager of the department, started in 1936 in the metallurgical department of the company's silicon steel division, spent part of 1939 in Sheffield, England, as European representative, and since his return has been engaged in warehouse control at the Pittsburgh headquarters offices.

W. F. Detwiler, Jr.

J. W. VAIDEN, since 1934 manager of gas and gasoline departments of Skelly Oil Company, has been advanced to vice president. He will have charge of manufacturing, as well as gas and natural gasoline divisions, and will supervise operations of the company's refinery at El Dorado, Kansas. Vaiden entered the employ of the company in 1924, having graduated from Alabama Polytechnic Institute in 1921. He will continue to make his headquarters at Tulsa.

JOSEPH P. GUDGER, traffic manager for Gulf Oil Corporation, Houston, last week presented a forecast of transportation requirements for the balance of the year for the Southwest before the first special meeting of the National Association of Shippers Advisory Boards, held in Chicago. Gudger is alternate chairman of the Southwest Shippers Advisory Board.

W. GRAYSON RAY, North Texas senior scout for Magnolia Petroleum Company, has been transferred to Dallas headquarters as chief scout, relieving Wade Smith, who has entered the Army.

T. G. MARTIN, engineer for R. J. Eiche, export representative of Manhattan Beach, California, has left for a tour of South American oil-producing areas.

A. B. BARNETT has severed his connections with Harbar Drilling Company and Cetal Drilling Company to start his own company, to be known as Barnett Drilling Company. Headquarters are at 521 First National Bank Building, Wichita.

GEORGE J. MURRAY, JR., public relations manager for Tide Water Associated Oil Company, New York, is directing a defense savings program among employes of the company. The program was launched recently with purchase by the company for each of its employes of a $1 defense savings stamp mounted in an album. Arrangements are being made for employes to elect a basis on which they may wish to purchase stamps periodically, and they will receive them in their pay envelopes.

W. L. DUCKER, Product Engineering Company, Tulsa, has been appointed district engineer for defense effort under the Office of Production Management. He will be associated with Dean W. H. Carson, College of Engineering, University of Oklahoma, and Fred Jones, Oklahoma City, regional OPM coordinator.

HERBERT J. BRAUN, formerly with Foote Bros. Gear & Machine Corporation, Chicago, has been appointed Detroit sales representative for McKenna Metals Company, Latrobe, Pennsylvania, with headquarters at 14425 Mark Twain Avenue, Detroit.

P. CHARRIN, vice president of Schlumberger Well Surveying Corporation and of International Cementers, Inc., is completing a trip of the northern Mid-Continent area.

HARRY ROSS, Dowell Incorporated, Tulsa, addressed the Engineers Club of Tulsa on use of chemicals in treatment of oil reservoirs composed of sandstone, June 16.

MYRON POWERS, in charge of purchases at the Cleveland plant of Chicago Pneumatic Tool Company, has been named manager of purchases, with headquarters at the general offices in New York.

FRANK BUTTRAM, president of Independent Petroleum Association of America, has been elected to the vice presidency of Oklahoma State Board of Regents for state institutions.

W. L. SCHNEIDER, sales manager for The Falk Corporation, Milwaukee, has been elected vice president in charge of sales. A 1925 graduate of Marquette University, he started with the company as sales estimator, and successively held positions as sales engineer, assistant sales manager and sales manager.

T. F. Scannell, assistant to the sales manager, succeeds Schneider as sales manager. A 1918 Yale University graduate, he served as an ensign in the Navy during World War I, was with Chain Belt Company, and joined Falk in 1928 as St. Louis representative. He later was southwest district manager, and since April, 1940, has been assistant sales manager.

J. B. Kelley, in charge of Falk's flexible coupling business, has been named assistant to the sales manager. Since graduating from Marquette University in 1927, he has been with Falk, first as an apprentice and later as an estimator, salesman and district manager at Cincinnati.

HARRY McCOOL, JR., has been appointed southwestern sales representative for the Steel and Tube Division of The Timken Roller Bearing Company. His territory includes Kansas, Louisiana, Oklahoma, Arkansas and Texas, with headquarters at Dallas. McCool joined Timken in 1928 as hot mill operator, and was advanced to superintendent of the tube mill at Wooster, Ohio, in 1935. He served in this capacity until March, 1941, when he joined the sales department of the Steel and Tube Division.

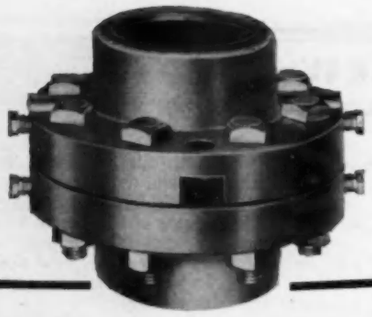
HOYT SHERMAN, manager for Mene Grande Oil Company in Eastern Venezuela, is vacationing in the United States. He was in Houston last week.

F. F. WRIGHT, production division of Sinclair Prairie Oil & Gas Company, has been transferred to the Ardmore district from Nowata.

WERNER TAPPOLET, geologist with Royal Dutch Shell interests in Mexico and Venezuela for 14 years is in Houston, where he plans to locate.

CYLDE E. DAVIS, Oklahoma division geologist for Halliburton Oil Well Cementing Company, Oklahoma City, re-

J. C. Ballagh, Patterson-Ballagh Corporation, Los Angeles, brought back this picture from Calgary, Alberta, Canada. Shown from left to right are: R. E. Trammell, field superintendent, Royalite Oil Company; George Kipp, manager, Geo. Kipp (Alberta) Limited, Calgary, and Floyd Wellker, Royalite drilling superintendent.



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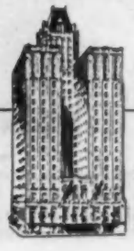

MEN IN THE INDUSTRY'S NEWS

cently spent several days in Houston studying Gulf Coast technique in electric logging.

STANLEY A. McCASKEY has been elected assistant secretary of Allegheny Ludlum Steel Corporation, Pittsburgh. A native of Wilkinsburg, Pennsylvania, he is a 1931 graduate of Harvard Law School. McCaskey served with South Penn Oil Company, and later as vice president and general counsel of Six States Coal Corporation. He resigned to become chief counsel for the treasurer of the United States in Washington, and in 1938 went to San Juan as assistant general counsel for the Puerto Rico Reconstruction Administration. Returning to Washington in 1940 as assistant chief of the Foreign Funds Control Division of the Treasury Department, he resigned in September of that year to become associated with Allegheny Ludlum.

C. M. MARATTA, maintenance engineer since 1921 for The Timken Roller Bearing Company, Canton, Ohio, has been appointed Chief Works Engineer to fill a vacancy left by death of W. C. Makley. Maratta served as power plant inspector of the Pennsylvania Railroad for seven years, draftsman for Westinghouse Electric & Manufacturing Company for four years, and joined Timken as a draftsman in 1917.

Walter F. Green, who has been with the Timken engineering department since 1935, becomes Assistant Works Engineer, and Putney L. Wright, with Timken since 1938, will be plant engineer.

E. J. BARTOSH, secretary-treasurer of the Pacific Section, American Association of Petroleum Geologists, has announced a change in date of the section's fall meeting, to be held in Los Angeles, from November 6-7 to October 16-17. The meeting was advanced to avoid conflict with the American Petroleum Institute's annual meeting, to be held in San Francisco November 3-7.

JOHN G. PEW, assistant to the vice president of Sun Oil Company, Dallas, has been named to the company's directorate, along with Walter C. Pew, general sales manager; Frank S. Reitzel, assistant to the president, and Clarence H. Thayer, manager of the manufacturing department's engineering division.

BART DeLAAT, Illinois division production engineer for The Pure Oil Company, Olney, has been named assistant chief production engineer with headquarters in Chicago. He is succeeded at Olney by Lawrence Ogden, formerly at Fort Worth, who is being assisted by C. F. Terrel, formerly at Chicago.

WILLIAM C. FASTNOW, Los Angeles, has been named vice president and board chairman of Kern Ridge Oil Company.

C. E. NEEDHAM, president and director of New Mexico School of Mines, and M. L. Thompson, of the school, last week led a field trip arranged by the Panhandle Geological Society to study Pennsylvanian formations in New Mexico mountain regions. The group started from Raton, New Mexico. Ed Rumsey, Shell Oil Company, was trip chairman, and was assisted by Elliott Powers, Gulf Oil Corporation; Bill Hoover, Humble Oil & Refining Compapny; Tom Craig, Phillips Petroleum Company, and Dave Henderson, Stanolind Oil & Gas Company.

R. HOUSTON FOSTER, 59, executive vice president of Landreth Production Corporation, died June 19 at Rochester, Minnesota, from complications arising from an operation earlier in month. He had been associated with the above company and its predecessors since 1920 as general counsel, and became executive vice president January 1, 1939. He had maintained residence at Fort Worth since 1925, taking active part in church and educational affairs, and for the past year served as board president of the Texas Christian University.

JOHN M. COOPER, 53, board chairman of Cooper Gas Company and discoverer of the Page field, West Texas, died June 12 at Amarillo. He was a native of Rochester, Wisconsin, and attended the University of Wisconsin. He engaged in the oil business in Montana and California before his West Texas strike, and had resided at San Angelo since 1933.

THOMPSON E. COALE, 45, president of Southern Asphalt & Petroleum Company, died June 13 of a heart attack at his Fort Worth residence. He was formerly connected with Texas Pacific Coal & Oil Company and the Josh Cosden interests.

LLOYD E. LINDSAY, 72, pioneer oil-map draftsman, died at Oklahoma City.

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Squeaks from the Bull Wheel

Once Enough

Did you ever catch your husband flirting?

Yes, just once.

What did you do to him?

Married him.

Donation

"You say the bill collector is downstairs?"

"Yes."

"Well, tell him to take that pile that's on my desk."

Opportunity

Youth—I can read your thoughts.

His Sweetie—Well, what are you waiting for then?

Saving

"Does your wife economize?"

"Oh, yes. We have to do without practically everything I need."

Following Orders

You sure made a poor job of painting this door.

Well, you declared this morning that it needed painting badly.

Modest Model

"Do you mean to say you'd pose for a man with no clothes on?"

"Heavens no! He wears pants and everything."

Serious Malady

"You ain't yo'se'f no mo'. Sick or sump'in?"

"Ah got insomnia. Ah keeps wakin' up ev'y few days."

Made It

Airman (after landing in a tree): "I was trying to make a new record."

Farmer: "You did. You're the first man to climb down that tree before climbing up it."

Essence of Speed

"Look here, waiter, we've been waiting over a half hour. How come?"

"Can't help it, mum; this isn't the divorce court."

Hopeful

"So your husband has got a job at last."

"Yes, he has. It's hard work and he says it's killing him. But thank goodness, it's permanent."

To the Victor

At great risk the valiant knight had rescued the fair maiden and, now, he was holding her in his arms.

"Listen, big boy! You're not holding me for ransom, are you?"

"Not me! Let Ransom get his own women."

Poor Teacher

"Junior, can you tell me how matches are made?"

"No, ma'am, but I don't blame you for asking."

"What do you mean?"

"Well, my mother says you've been trying for 20 years to make a match."

Slow Motion

Squeaks is indebted to A. H. McClain, geologist for United Fuel Gas Company, Charleston, West Virginia, for this one:

A scout getting report on a West Virginia well found on the driller's log: "22 to 70 feet, W. P. A. rock."

Ask for an explanation, the driller said: "We didn't make much time in that rock, so we called it W. P. A."

Both Baffled

"What is a synonym for colossal?"

"First, please tell me—what is a synonym?"

Fish Story

It's getting late, and we haven't caught a single fish.

Well, let's let two more big ones get away and then go home.

According to Formula

"Do your three children live at home with you, Mr. Smith?"

"Oh, no, none of them's married yet."

Modern Youth

Have you a dime bank, Johnny?

No, but I have a billfold.

Trying

"Norah, I must tell you," said the lady of the house. "For a considerable time my husband has been complaining of the cooking, the way the table is laid, and the untidy state of the whole house."

"Gracious, madam," replied the maid, "I wouldn't be married to such a grumbler for a fortune."

Striving Youth

I believe you would sooner play cards with papa than sit in the parlor with me.

No, darling, I wouldn't; but we must have the money to get married on.

No Use

"Let's walk in the garden."

"No, I'm afraid if we do you'll—"

"No, honestly I won't."

"Oh! Well, what's the use then?"

Double Check

"I'll never forget how foolish you looked when you proposed to me."

"It was nothing to how foolish I really was."

Silly Question

"Did you miss your train, Sir?"

"No, I didn't like its looks, so I chased it out of the station."

Expecting Too Much

Doctor, how long will it be after I take the anaesthetic before I know something?

You mustn't expect too much of the anaesthetic.

Laying It On

Your husband refused to recognize me at the dance last night. I suppose he thinks I'm not his equal.

Nonsense, of course you are. Why he's nothing but a conceited idiot!

Heard at Camp

"What's the difference between dancing and marching?" she asked.

"I don't know."

"I thought so! Shall we sit down for a while?"

Playing Safe

"Aren't you afraid your creditors will see you eating in this expensive restaurant?"

"It's the safest place. They can't afford to come here."

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NOTES FOR THE Equipment Buyer and User

Combination Hook-Block

THE BREWSTER COMPANY

A short-coupled combination hook-block for use in portable rigs or other applications where space is at a premium, designated Model H-50-B, has been announced by The Brewster Company, Shreveport, Louisiana.

Brewster Model H-50-B Hook-Block

The product employs three manganese steel 22-inch sheaves, and a 2-piece cover to streamline the block and enable pins and bolt heads to be countersunk. A line guard around sheaves is designed to reduce rigging time and to make unnecessary removal of guard covers when stringing the block. Sheaves are mounted on tapered roller bearings to reduce side sway.

Center pin is 3¾ inches diameter; two bottom pins are 1¾ inches diameter, and hook is spring-loaded type with 4-inch travel. A locking device is provided to hold the hook firmly in either of four positions.

Overall length is 68 inches, width 23 inches, depth 14 inches. Rated maximum safe load capacity is 100,000 pounds, and weight is about 1500 pounds.

Paint

THE WILBUR & WILLIAMS COMPANY

A paint designed to reflect light, designated light gray Totrust, has been announced by The Wilbur & Williams Company, Park Square Building, Boston.

The paint employs an oil vehicle to penetrate pin holes and rusted pits in the metal and expell moisture that may be present. It may be used over galvanized metals, and is available in colors in addition to gray.

One gallon covers 800 to 1200 square feet, and the paint is not affected by a temperature range from 100° F. below zero to 800° F. above zero.

Microscopes

Spencer Lens Company, Buffalo, New York, has issued a new catalog describing its line of polarizing microscopes. It illustrates and describes the instruments, and outlines applications in chemistry and metallurgy.

WEIGHT INDICATOR POINTS
Weight indicators and gauges that leak not only require costly shut-downs for repairs — but can give misleading information that may result in serious and costly trouble.
With the "Sealtite" Weight Indicator and "Sealtite" Mud Pump Gauge, factory filled and sealed with hose rated at 20,000 lbs. per sq. in. bursting pressure, they require no shut-down time for repairs, and are instantly ready for operation on each new location.
It's only one more time and money saving feature the "Sealtite" offers in the way of complete drilling control.
MARTIN-DECKER CORP. LONG BEACH, CALIF.

Deflecting Tool

EASTMAN OIL WELL SURVEY COMPANY

A full-gauge deflecting tool, designed as self-orienting and to be run into the hole without use of orienting clamps or surveying instruments, designated "Driftmaster," has been announced by Eastman Oil Well Survey Company, Dallas. It has been developed for hole straightening, controlled directional drilling and side-tracking cement plugs.

In operation, the only survey operation necessary before running the tool is that a drift indicator or a single-shot reading be taken. The tool is then run on the drill pipe in the same manner as running an ordinary bit. The hole does not have to be rat-holed or reamed.

The tool embodies some features of a knuckle-joint type deflecting tool, and includes in addition a self-orienting mechanism to save time and avoid drilling delays. It is made up on a limber joint of drill pipe, operating parts are lubricated, and the tool is lowered into the hole as though it were a bit. Bridges or obstructions which may be encountered above bottom can be drilled out without affecting subsequent self-orientation of the tool. When the tool is at bottom, the pump is started to clean the hole by circulation. The drill pipe is then lowered until a weight approximately equivalent to that of 5 stands of 4-inch drill pipe is brought to bear upon the tool. Application of weight is designed to release the locking device so that the balls within the tool are free to roll to the low side of the hole. Upon lifting the string so the tool is slightly off bottom, the lower section, or stinger, is automatically pointed or cocked toward the low side of the hole by the wedging action of the balls. Through this action, the tool is automatically pointed in the opposite direction from the former course of the hole.

In hole-straightening operations, a record of the angle of inclination only is necessary, as the tool automatically cocks toward the low side of the hole. When it is set down again to commence

drilling, the course of the hole is reversed. After 10 to 20 feet of hole is made, a drift indicator may be run through the drill pipe down to the tool to check the angle of the new hole before the tool is withdrawn.

For directional drilling, the low side of the hole is determined through a single-shot reading taken before the tool is run, and it is only necessary to turn the drill pipe the desired distance away from the known low side of the hole to the proper direction for the new deflection course.

Bits used on the stinger may be diamond-point or rotary-shoe types.

Threading Machines

Landis Machine Company, Waynesboro, Pennsylvania, has issued a new bulletin briefly covering its entire line of threading machines, collapsible taps and die heads. It contains many illustrations, with brief descriptions of each item. A convenient mailing card is included to facilitate request for additional information on any product.

Firing Control

The Inferno Company, Shreveport, has issued Bulletin 8-B describing two types of firing controls designed to turn the fire and draft on or off as slowly as desired, and to maintain uniform steam pressure using either oil or gas as fuel. The controls are illustrated, and operating features detailed.

Steel Castings

Lebanon Steel Foundry, Lebanon, Pennsylvania, has issued a chart showing comparable classifications with nominal analysis and minimum physical properties of regular carbon steels, structural alloy steels, and stainless alloys used in the company's Circle L castings.

Bearing

THE JEFFREY MANUFACTURING COMPANY

A line of solid and split journal bearings stocked, cased and labeled for prompt delivery, has been announced by The Jeffrey Manufacturing Company, Columbus, Ohio.

Jeffrey Manufacturing Bearing

Of gun-metal finish, the bearings have machined bases and faced ends. Babbitted bores are broached to smooth hard surface to require no wearing in. They are tapped for grease cups or pressure fittings, with a storage groove in the top to provide proper distribution of lubricant. The split bearing has feeder grooves on each side.

Jacks

The Duff-Norton Manufacturing Company, Pittsburgh, has issued Catalog 200, a 64-page data book on lifting jacks. Several new jack developments have been included, and the book gives complete information on capacities, raises, weights and prices on 300 models that comprise the company's line.

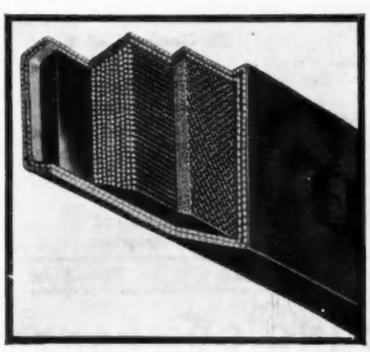
V-Belt

ALLIS-CHALMERS MANUFACTURING COMPANY

A line of V-belts based on the Vogt formula, designated Super 7, has been announced by Allis-Chalmers Manufacturing Company, Milwaukee.

The belt employs small cords, permitting use of a larger number to provide greater strength with less stretch. Cords are imbedded in heat-dissipating rubber to reduce internal belt degeneration.

The belts are made in matched sets to provide uniform, smooth-running efficient drives. Live-rubber bottom is designed to absorb impacts of operation; central cord portion to transmit power at the effective pitch diameter; and bias cut fabric to provide transverse stability. Two-ply rubber-impregnated fabric cover is designed to prevent destructive agents from reaching the vital belt elements, and to provide a high grip coefficient between belt and sheave walls.



Allis-Chalmers Super 7 V-Belt

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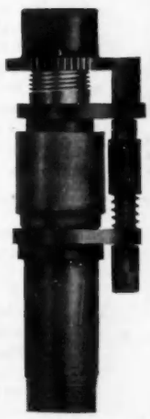
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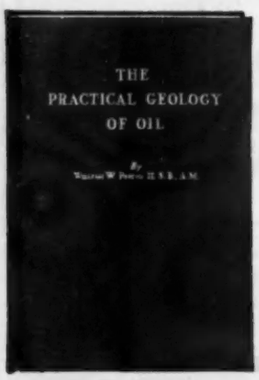

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Consulting Geologist

A new book which will be of special interest to executives, engineers, draftsmen and others engaged in the oil business.

In this book the basic geological principles involved in all phases of the oil business, and apart from the department of the professional geologist, are described in a book short enough to be read easily, non-technical enough to be understood without previous study of geology and complete enough to make fundamental geological processes understandable. No one with a real interest in the oil business should be without an understanding of the geological background.

This book is interesting as well as instructive.

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